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Wrono

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[54] **ROLL-UP SLATTED SHADE ASSEMBLY**

[76] Inventor: **Walter A. Wrono,** 3030 Marcus Drive, Building, Apt. 106, North Miami Beach, Fla. 33160

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[52] **U.S. Cl.** **160/133**

[51] **Int. Cl.** **E06b 9/08**

[58] **Field of Search** ..... 160/133, 201, 209, 160/368 G; 49/372, 379, 394, 425

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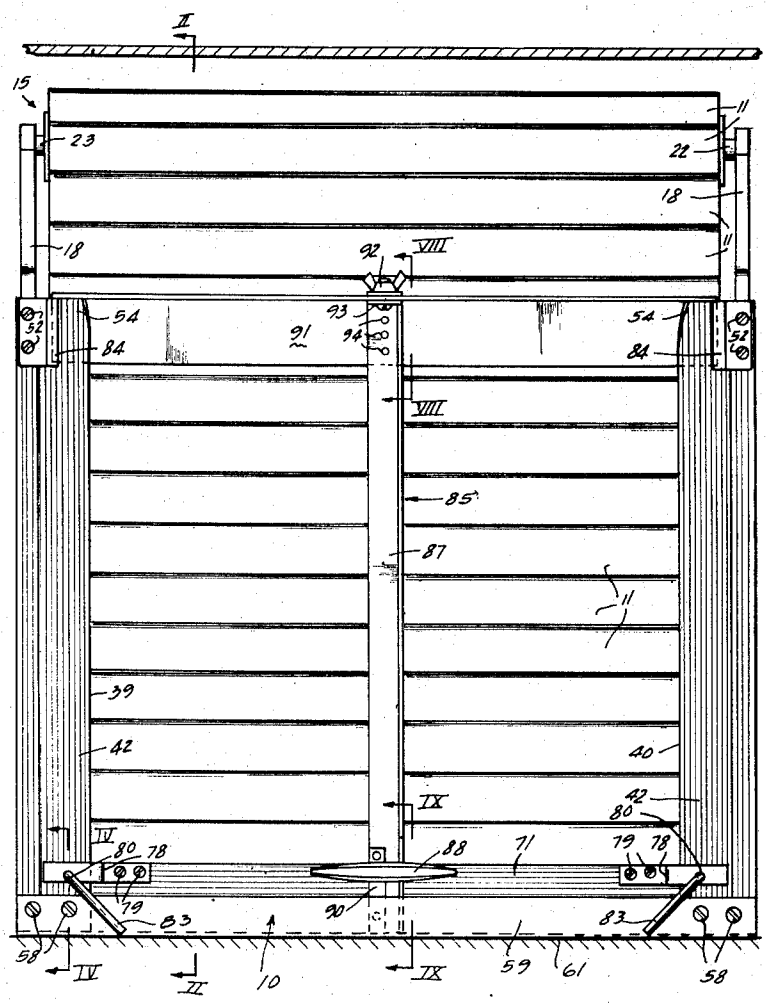
Primary Examiner—Peter M. Caun

Attorney—Hill, Sherman, Meroni, Gross & Simpson

[57] **ABSTRACT**

A roll-up slatted shade assembly has an articulated slat screen anchored to a wind-up spring head barrel journalled on a shaft carried by arms projecting from the upper ends of vertical guide tracks, with releasable means arranged to lock the pull bar of the screen in the closing position of the screen and comprising pins for coupling members on the pull bar to the lower end portions of the track bars, such members also serving as stops to limit opening movement of the screen by engagement with fixed stops on the upper end portions of the track bars. Silent, rattle-free operation of the screen is assured by soundproofing means. Means are provided for connecting a plurality of assemblies or units in an enclosure orientation. A hurricane brace bar frame structure is provided.

24 Claims, 9 Drawing Figures

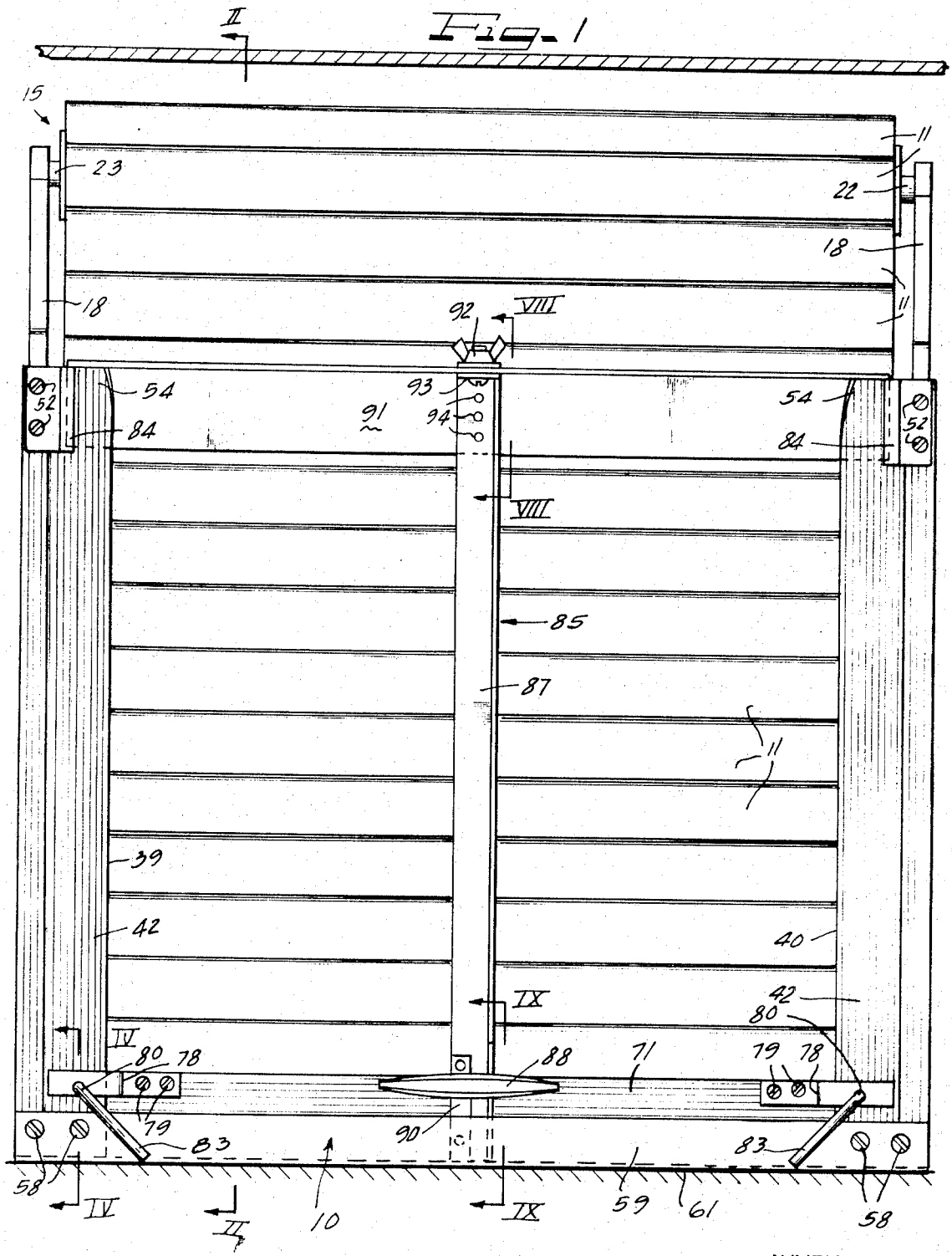


PATENTED MAY 15 1973

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Fig. 1



INVENTOR.
WALTER A. WRONO

BY Hill, Sherman, Meroni, Gross & Simpson ATTORNEYS

Fig. 2

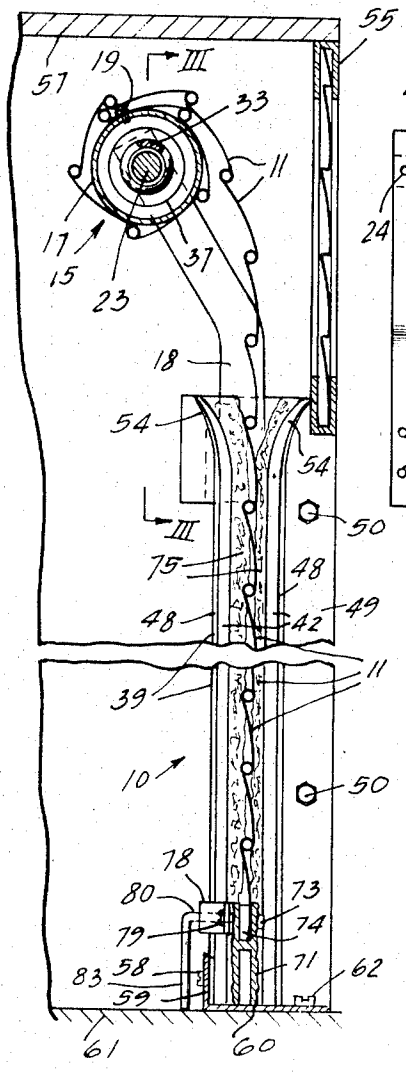


Fig. 3

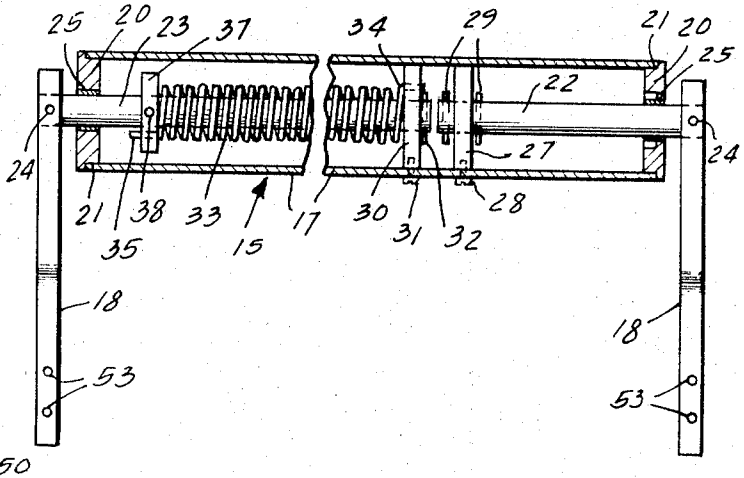
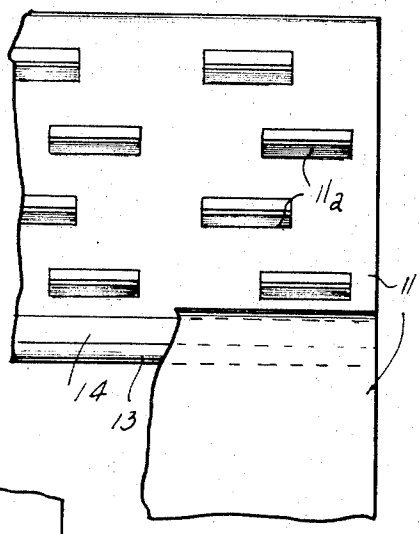


Fig. 5



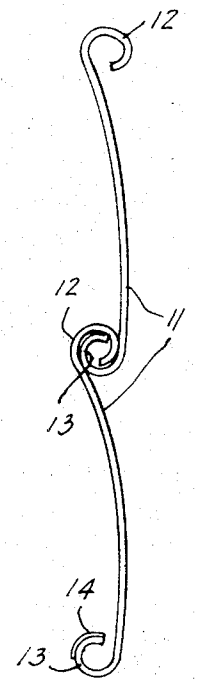


Fig. 6

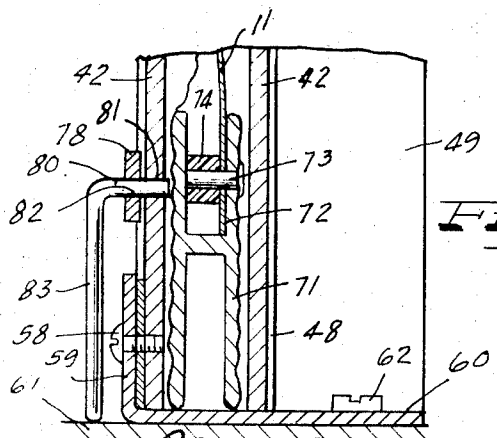
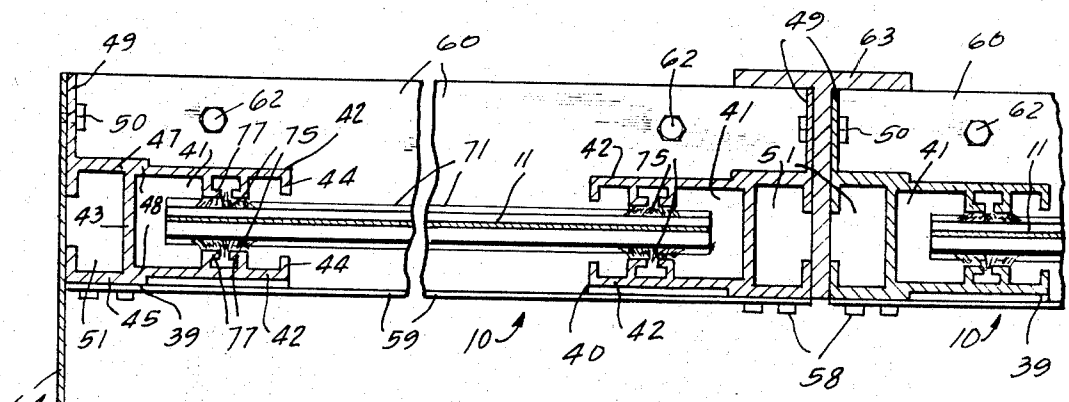


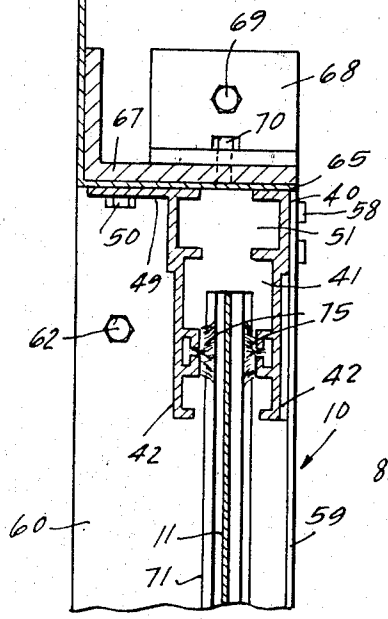
Fig. 4

INVENTOR.
WALTER A. WRONO

BY Hill, Sherman, Meroni, Gross & Simpson ATTORNEYS

Fig. 7





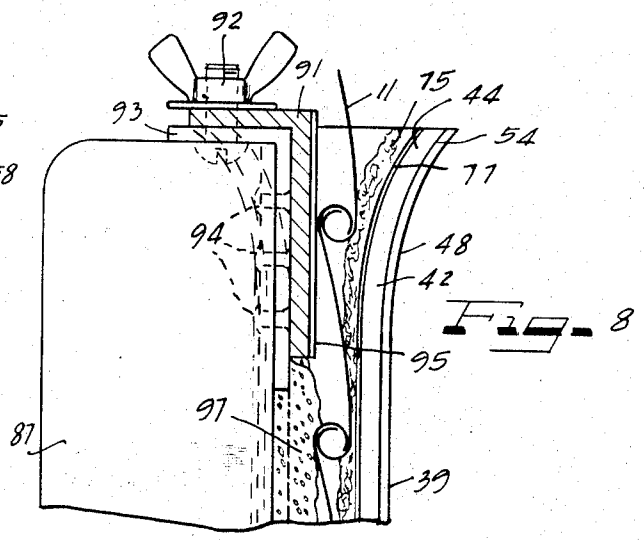


Fig. 8

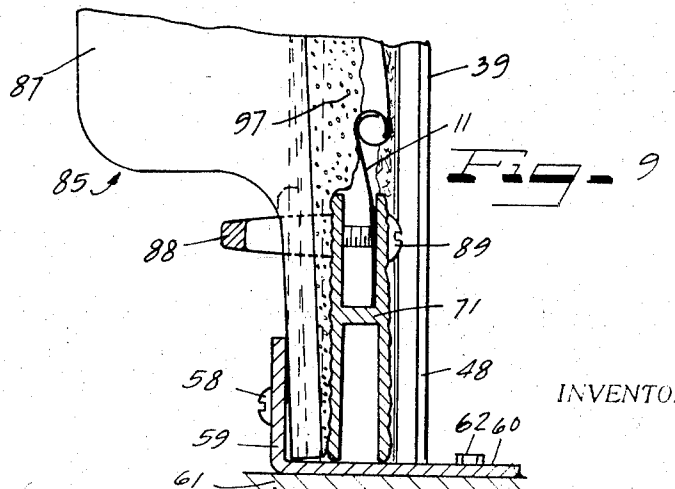


Fig. 9

INVENTOR.

BY Hill, Sherman, Meroni, Gross & Simpson

WALTER A. WRONO
ATTORNEYS

ROLL-UP SLATTED SHADE ASSEMBLY

The present invention relates to roll-up slatted shade assemblies and is more particularly concerned with a metal construction of this kind especially useful for residential uses such as for enclosing porches, swimming pools, in front of windows or sliding doors, as protective shade structure for vehicles such as watercraft or land vehicles, recreational buildings, patio covers, and the like.

Prior roll-up shade assemblies have had several disadvantages and defects, including liability of the roll-up spring structure to fail, largely due to inadequate protection so that rusting and corrosion would eventually destroy its usefulness. There was also a tendency toward distortion of the screen slats rolled up on the spring barrel. Another deficiency in prior structures has been liability to rattle from wind shaking, and otherwise noisy operation.

Bulkiness and excessive space requirements have been disadvantages in some prior constructions.

Inadequate, and sometimes overly complex locking arrangements have heretofore been proposed.

Inadequate hurricane resistance has also been a defect in some prior constructions.

An important object of the present invention is to overcome the foregoing and other disadvantages, defects, inefficiencies, shortcomings and problems in prior roll-up slatted shade assemblies and to attain important advantages and improvements in the new construction as will hereinafter become more clearly apparent.

Another object of the invention is to provide a new and improved roll-up slatted shade assembly having a novel roll-up biasing structure.

A further object of the invention is to provide a new and improved roll-up head structure for slatted shade assemblies.

Still another object of the invention is to provide a new and improved slatted screen for roll-up shade assemblies having novel sound-proofing means.

Yet another object of the invention is to provide new and improved means for guiding the slatted screen of a roll-up shade assembly.

A still further object of the invention is to provide a new and improved roll-up slatted shade assembly having novel latching means.

A yet further object of the invention is to provide new and improved hurricane protection for a roll-up slatted shade assembly.

It is also an object of the invention to provide new and improved track structure for roll-up slatted shade assemblies.

An additional object of the invention is to provide new and improved means for enclosing an area with a plurality of roll-up slatted shade assembly units.

Other objects, features and advantages of the invention will be readily apparent from the following description of certain preferred embodiments thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts embodied in the disclosure, and in which:

FIG. 1 is an inside elevational view of a roll-up slatted shade assembly embodying features of the invention;

FIG. 2 is a fragmental vertical sectional view taken substantially along the line II—II of FIG. 1;

FIG. 3 is a fragmental vertical sectional detail view taken substantially along the line III—III of FIG. 2;

FIG. 4 is a fragmentary vertical sectional detail view taken substantially along the line IV—IV of FIG. 1;

FIG. 5 is a fragmentary inside elevational view of a pair of the slats of the screen of the assembly showing certain details of structure;

FIG. 6 is an end elevational view looking toward the left in FIG. 5;

FIG. 7 is a fragmental horizontal sectional detail view showing an arrangement of roll-up slatted shade assembly units providing an enclosure, and embodying features of the invention;

FIG. 8 is an enlarged fragmentary sectional elevational view taken substantially along the line VIII—VIII of FIG. 1; and

FIG. 9 is an enlarged fragmentary sectional elevational detail view taken substantially along the line IX—IX of FIG. 1.

On reference to FIGS. 1 and 2, a roll-up slatted shade assembly 10 according to the invention comprises a screen made up of a series of horizontal slats 11 made from suitable form-retaining sheet material such as sheet metal which may be aluminum, stainless steel, sheet steel, synthetic plastic, and the like, having any preferred finish and made according to any preferred process such as rolling, extrusion, or other preferred technique, and desirably of a standard structure so as to be capable of ready adaptability for length and width of screen to suit installation requirements. In the advantageous form shown, having special reference to FIGS. 5 and 6, each of the slats 11 has a transversely bowed body affording at least some aid in form retention of the respective slats and desirably arched toward the outside of the screen. Along the respective opposite upper and lower edges of each slat are provided respective partially closed reinforcing bead curls 12 and 13, the upper curl 12 being curled toward the outer side of the slat and the lower curl 13 being curled to the inner side of the slat and each curl having a terminal edge which is at least slightly spaced from the body of the slat so that by effecting an interhooked relation of the upper curl 12 of one slat with the lower curl 13 of another slat a coactive mutually supporting hingedly connected relation of the slats in the screen is attained. Assembly of the reinforcing and hinge curls is readily effected by an endwise sliding relative assembly movement of the respective slats.

In order to provide for effective quiet hinging operation and rattle-free cooperation of the hinge structure provided by the interhooked curls 12 and 13, means comprising cushioning, sound-deadening, lubricating coating material 14 are provided on at least one of the confronting bearing surfaces within each of the slat hinges. In a convenient form the coating 14 comprises a strip of polyester tape strip extending at intervals or entirely along the supporting bearing, generally upwardly facing surface of each of the hinge curls 13, although the coating 14 may be applied in any other desirable manner such as in a liquid form cured in situ, adhesively bonded particulate material, and the like. This material 14 should be in a thin enough layer to avoid interference with free hinging action of the hinge joint but should be thick enough to have the desired sound-deadening function and is also desirably possessed of at least some lubricating action for smooth, non-binding hinging action of the joint.

If desired, some or all of the slats **11** may be provided with ventilation openings **11***a* of any preferred configuration. In this instance the openings are depicted as of generally louvered form.

Rolled-up supporting and biasing structure for the slatted screen of the assembly **10** is provided by a head sub-assembly **15** (FIGS. **1, 2** and **3**) comprising a barrel **17** in the form of a horizontal tube rotatably supported at its opposite ends on respective upstanding arms **18** which, as shown, are one piece bars. Attachment of the upper marginal portion of the uppermost slat **11** in the screen to the roller barrel **17** may be effected in any suitable manner, such as by means of screws **19.** Longitudinal bowing, bending or deformation of the anchored slat or any succeeding slat rolled onto the barrel **17** is avoided by a uniform outside diameter for the barrel throughout the length of the slats, while maintaining the barrel of a minimum length suitable for the purpose. Accordingly, each opposite end of the barrel **17** carries a bearing ring end cap **20** which has a peripheral rabbet **21** dimensioned to receive the associated end of the barrel tube in snug, preferably pressfit relation with the end flange of the cap of a common diameter with the outside diameter of the tube, thereby presenting a uniform diameter throughout the length of the barrel assembly.

Rotary mounting of the barrel **17** on the arms is effected by shaft means fixedly carried by the arms **18.** To provide for easy assembly and substantial axial adjustment tolerance mounting of the head structure **15,** the shaft means comprise a pair of separate coaxial shaft section members **22** and **23** having end portions extending from opposite ends of the roller barrel and respectively non-rotatably mounted on the arms **18** and secured as by means of fasteners comprising set screws **24.** Each of the shaft sections **22** and **23** extends through a respective bushed bearing bore **25** in its associated end cap **20.** In this instance the shaft section **22** is a relatively short stub shaft having its inner end portion extending through a stabilizing bearing disk **27** which is retained in place axially within the barrel **17** as by means of a screw **28.** To assist in maintaining the barrel **17** generally centered between the arms **18,** retainer means such as snap rings or drive pins **29** are secured to the shaft member **22** at each side of the bearing member **27.**

Although the shaft section **23** is mounted similarly as the shaft section **22,** it is substantially longer and serves as a biasing spring mandrel. To this end, at its inner end portion the shaft section **23** is engaged through a stabilizing journal disk **30** secured in desired axial position within the barrel **17** as by means of a screw **31,** and retainer means such as a snap ring or drive pin **32** are secured to the shaft portion which projects inwardly from the disk **30.** Carried concentrically about the shaft section **23** are wind-up biasing means in the form of a coiled tension spring **33** which has an inner end terminal **34** anchored to the bearing disk **30** and an outer end terminal **35** anchored to a coupling member in the form of a disk **37** secured fixedly to the shaft section **23** as by means of a set screw **38.** By maintaining a wind-up tension on the spring **33** between the disks **30** and **37,** a normal wind-up bias is applied to the barrel **17** facilitating roll-up of the slat screen or curtain on the barrel, and as the curtain is pulled down the spring winds up to effect progressively increasing roll-up bias counterbalancing the weight of the extended curtain.

Support for the head assembly **15** and vertical guidance for the slat curtain is provided by means comprising respective left and right hand (considered from the inside of the unit **10**) vertical guide track bars **39** and **40** (FIGS. **1, 2** and **7**) which may be formed as aluminum extrusions and disposed in the assembly in allochiral relation. Each of the bars **39** and **40** provides a curtain guide channel **41** within which the sides of the curtain provided by the end portions of the slats **11** are guidedly received. In a desirable construction, the channel is defined by spaced parallel identical rigid flanges **42** connected together along their outer edges by a web flange **43** and defining therebetween at their inner edges a channel slot between narrow inturned reinforcing flanges **44.** While maintaining the channel flanges **42** of as thin a section as practicable while yet maintaining ruggedness and preventing spreading distortions of the flanges, a strongly reinforcing structure is provided along the base of the channel **41** by an angular reinforcing flange **45** at the inner side of the respective bars **39** and **40** and a similar angular reinforcing flange **47** along the outer side of the bars, the flanges **45** and **47** being of a heavier section, and having reinforcing portions **48** extending beyond the web **43** along the outer sides of the flanges **42.** This provides an extremely rugged structure highly resistant to distortions which might interfere with proper functioning of the shade assembly, and more particularly smooth operation of the pull curtain. Accurate vertical mounting of the track bars **39** and **40** is enabled by means of integral respective attachment flanges **49** extending outwardly from the base flanges **47** and adapted to be secured to supporting frame or wall structure as by means of screws **50.**

Mounting of the roll-up head arms **18** on the upper ends of the track bars **39** and **40** is conveniently effected by inserting lower end portions of the arms in the upper ends of respective complementary upwardly opening sockets provided in the bars by grooves **51** defined by the web **43** and the flanges **45** and **47** of each of the bars. Attachment of the arms **18** to the bars is effected as by means of screws **52** secured through the flanges **45** and into tapped screw holes **53** in the arms. At their upper ends to and between which the barrel shaft means are secured, the arms **18** are desirably turned obliquely upwardly and inwardly, dog leg fashion to inset the barrel **17** and faciliate movement of the slat curtain into the vertical guide channels **41** for movement in a vertical plane between open and closed positions. Further, to facilitate movement of the curtain into the upper ends of the guide channels, the upper end portions of the flanges **42** are desirably bent into flaired relation as at **54.** If desired, a protective, ornamental and concealing valance panel **55** may be mounted along the outer side of the head assembly **15** and where there is no ceiling or roof structure **57** (FIG. **2**) the valance panel may be part of an overlying box type cornice serving as a dust shield as well as for its other mentioned functions.

At their lower ends, the guide bars **39** and **40** are secured as by means of screws **58** to an upstanding flange **59** on the inner edge of a base plate strip **60** secured to a floor or other base **61** as by means of lag bolts or screws **62.** While the base plate strip **60** may be of a length to extend under and between the guide bars **39** and **40** of a single shade assembly unit, it may extend for a length to accommodate a plurality of such units

in coextensive coplanar relation, as represented in FIG. 7, and wherein the adjoining guide bars 39 and 40 of the contiguous units are secured to the center flange of a cross-sectionally T-shaped stud bar 63 by means of the screws or bolts 50.

Where respective ones of the shade units 10 are required to be located in a right angular orientation as shown at the left side of FIG. 7, a vertical connecting panel 64 may be provided, in the absence of a vertical wall, with the attachment flange 49 of the guide track bar 39 of one of the units secured by means of the screws 50 to the panel. From the bar 39 the panel 64 extends as a spacer and closer to the guide track bar 40 of the angularly related one of the units 10 and with an angularly inturned flange 65 of the panel providing a re-entrant corner within which is engaged a vertical supporting and reinforcing angle stud bar 67 secured to the floor or base by means of an angle bracket 68 anchored to the floor by at least one screw or lag bolt 69 and to the bar 67 by means of one or more screws 70, the attachment flange 49 of the track bar 40 being secured to the flange 65 and the bar 67 by means of the screws 50. This provides a rugged, attractive corner construction, especially suitable for patio, swimming pool and like enclosures.

To facilitate raising and lowering the slat curtain, the lowermost of the slats 11 is secured to a pull bar 71 which is desirably constructed as a generally H-shaped aluminum extrusion providing an upwardly opening horizontal channel 72 within which the lower edge of the lower slat 11 is received and secured as by means of a desirable plurality of spaced rivets 73, there being respective take-up or filler and sound-deadening blocks 74 secured by the rivets in the space within the channel 72 and the wall defining the channel opposite to that against which the slat is secured. At its opposite ends, the bar 71 rides freely in the channels 41 of the track bars 39 and 40.

Yieldable, non-metallic curtain-guiding, centering, wiping and sound-deadening means are desirably provided in the track bars, comprising vertical fabric or napped wiper strips 75 which are anchored to the respective flanges 42 within the channel 41 by means of T-slot anchor flanges 77 integral with the flanges 42. By preference, the strips 75 comprise a napped nylon material, and for optimum results, extend the full length of the flanges 42.

Means are provided for latching the slat curtain in the down or closed position. For this purpose, the pull bar 71 carries on each opposite end portion an angular finger bracket 78 having its base portion secured as by means of screws 79 to the pull bar and having a finger portion extending across the inner flange 42 of the respective guide track bar 39 or 40. In at least the lowermost or down position of the bar 71, a respective latching pin 80 is engageable through aligned latch pin holes 81 and 82 in the respective flange 42 and the bracket finger 78 (FIGS. 1, 2 and 4). Each of the latch pins 80 is desirably provided with an angular handle 83 to facilitate manipulation. In addition to their latch function, the fingers 78 are adapted to serve as upward limit stops upon full raising or opening of the curtain. At the upper limit of opening, the fingers 78 engage against fixed stops 84 which are secured to the upper end portions of the track bars as by means of the screws 52. Thereby the slat curtain is retained at a convenient position with the pull bar 71 and the lowermost of the slats 11 remaining in the upper or throat portions of the track bars.

For additional locking security and to provide thorough hurricane resistance to inward displacement of the closed slat curtain, replaceable means are provided in the form of a separable T-frame 85. This comprises a vertical rigid bar 87 of preferably L-shaped cross section having its lower end portion shaped to clear through a handle 88 located centrally of the bar 71 and secured thereto as by means of screws 89. In addition, the lower end of the bar 87 is constructed to fit in behind the flange 59 and it may be equipped with a snugging filler piece 90. At its upper end portion, the vertical bar 87 is separably secured to a generally inverted L-shaped cross section horizontal head bar 91 which is of a length to be engaged with its vertical flange within the throats of the track bars 39 and 40 and resting with its inturned horizontal flange portion on the upper ends of the throat flairs 54 of the inner bar flanges 42. Replaceable attachment between the bars 87 and 91 is effected by means of a wing nut screw 92 which is secured through the vertical flange of the bar 91 and an angle upper terminal flange 93 attached as by means of rivets 94 to the upper end of the bar 87. Through this arrangement, assembly of the T-bar structure 85 with the shade assembly 10 is easily effected by mounting the head bar 91 in place and then mounting the bar 87 in place and securing it to the head bar by means of the fastener 92. Inward pressure against the slat curtain will thus be thoroughly resisted not only by the T-frame 85 but also by the track bars 39 and 40.

Firm, rattle-free backup and abrasion-preventing engagement of the hurricane frame 85 with the curtain slats 11 and the pull bar 71 is assured by providing the bars 87 and 91 with suitable cushioning means. On the back surface of the head bar 91 a suitable non-metallic cushioning backing material 95 is applied for this purpose, such as elastomeric tape, felt strip, or the like, in a continuous strip or sections at spaced intervals therealong. Also for this purpose, felt, elastomeric sponge material 97, or like cushioning material is carried by the back surface of the vertical bar 87, preferably throughout its length below the head bar, and is of sufficient thickness to press lightly but without deforming pressure against the slats 11, greater compression pressure being permitted at the pull bar 71.

Where insect screening is employed with the shade assembly, the screening will be mounted outside the shade assembly so that the shade assembly can be operated from the interior of the screened-in space.

It will be understood that variations and modifications may be effected without departing from the spirit and scope of the novel concepts of this invention.

I claim as my invention:

1. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller;

guide track structure within which opposite sides of the curtain are engaged;

arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;

said guide track structure comprising generally channel-shaped bars;

means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;

said channel bars having opposite side walls defining respective track channels;

flaired throats defined by said side walls opening toward said roller to facilitate movement of the curtain sides into the track channels from said roller; and

a replaceable hurricane protection frame including a cross arm having portions thereof engaged in said throats.

2. In a roll-up shade assembly including an articulated slatted curtain having one end secured to a roller:

guide track structure including a pair of opposite complementary upright bars guidingly related to opposite sides of the curtain and provided with sockets opening upwardly;

arms extending upwardly from said upper ends of the bars and having lower end portions thereof supportingly engaged in said sockets;

means securing said arms in said sockets;

a pull bar on the lower end of said curtain;

stops fixed on the opposite end portions of said bar; and

fixed stops carried by the upper end portions of the bars in overhanging relation to said stops fixed on the bar to be engaged thereby for limiting upward raising of the curtain;

said stops fixed on the bar comprising brackets having base portions secured to the bar and each having a finger portion extending across the adjacent upright bar and underlying said stops carried by the bars.

3. An assembly according to claim **2**, each of said fingers having a hole therethrough, said upright bars having in their lower portions respective holes with which the holes in the fingers are adapted to be aligned, and respective latch pins engageable within the aligned holes to lock the pull bar in closed curtain position.

4. An assembly according to claim **2**, said stops carried by the upright bars being located outside of said sockets and secured in place by said arm-securing screws.

5. A roll-up shade assembly according to claim **2**, including a replaceable backup hurricane frame including means engaging with said track bars adjacent to said arms.

6. A roll-up shade assembly according to claim **5**, including a base member extending between lower ends of said track bars, and a vertical hurricane frame bar extending between said means engaging said guide track bars and said base member in backup relation to said curtain.

7. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:

guide track structure within which opposite sides of the curtain are engaged;

arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;

said guide track structure comprising generally channel-shaped bars;

means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;

said channel bars having opposite side walls defining respective track channels;

throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller; and

a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said end portions of the bars.

8. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller biased in roll-up direction:

a pull bar on the opposite end of said curtain;

vertical track bars for guiding opposite ends of said pull bar between a rolled-up condition of the curtain and a fully extended condition of the curtain in a plane between said track bars;

respective arms extending from the upper ends of said track bars;

means rotatably supporting said rollers on said arms;

releasable latch means including coupling structure between said bar and said track bars for holding the curtain in the fully extended position against the roll-up bias of said roller;

said latch means including latching fingers carried by said pull bar in generally lapping relation to said track bars;

said fingers and bars having alignable latch pin holes extending transversely to the plane of said curtain;

latch pins engageable in said holes for holding the fingers in latching position relative to the track bars; and

a replaceable backup hurricane frame including means engageable with said guide track bars adjacent to said arms.

9. An assembly according to claim **8**, including base means supporting lower ends of the bars, said hurricane frame comprising a T-shaped structure comprising a horizontal bar having opposite end portions retainingly engageable with upper portions of the track bars, a vertical bar having a lower end retainingly engageable with said base means, and means for detachably connecting the upper end of said vertical bar to said horizontal bar.

10. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller biased in roll-up direction:

a pull bar on the opposite end of said curtain;

vertical track bars for guiding opposite ends of said pull bar between a rolled-up condition of the curtain and a fully extended condition of the curtain in a plane between said track bars;

respective arms extending from the upper ends of said track bars;

means rotatably supporting said rollers on said arms;

releasable latch means including coupling structure between said bar and said track bars for holding the curtain in the fully extended position against the roll-up bias of said roller;

said latch means including latching fingers carried by said pull bar in generally lapping relation to said track bars;

said fingers and bars having alignable latch pin holes extending transversely to the plane of said curtain;

latch pins engageable in said holes for holding the fingers in latching position relative to the track bars;

said latching fingers carried by said pull bar serving as roll-up stops; and

fixed stop means adjacent to said arms engageable by said fingers in the fully rolled-up condition of the curtain.

11. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite sides walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said end portions of the bars;
a pull bar along the lower end of said curtain having end portions thereof riding in said track channels;
said bar having an upwardly opening longitudinal channel therein;
said curtain having a lower end slat engaged in said upwardly opening channel;
means securing said lower end slat in said channel; and
sound deadening filler means in said channel engaging the pull bar and said lower end slat.

12. An assembly according to claim 11, wherein said securing means comprise rivets, and said sound deadening filler means comprising blocks secured by the rivets in said channel.

13. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite side walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;
means for normally biasing the roller in roll-up direction and for facilitating erection of the assembly, including:
said roller comprising a barrel having a uniform cylindrical outside diameter on which said curtain is adapted to be wound;
opposite ends of the barrel having bearing end closures within said diameter;
shaft means extending from said supporting means through said bearing end closures;
bearing means mounted interiorly of said barrel and corotatively therewith;
said shaft means comprising a pair of separate coaxially aligned shaft sections which are separately secured non-rotatably to said supporting means at opposite ends of said roller;
each of said shaft sections being in supporting relation to said barrel through said bearing end closures and said interiorly mounted bearing means;
one of said shaft sections carrying a biasing spring having its opposite ends secured to respectively the end closure and the bearing means associated with said one shaft section; and
means carried by at least one of said shaft sections for retaining the same against axial displacement and providing limited axial tolerance adjustments between the shaft sections and the barrel; and
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said end portions of the bars.

14. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite side walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said bars;
a base plate running under and between said channel bars and having an upwardly extending flange means along one edge; and
fasteners securing said bars to said flange means.

15. An assembly according to claim 14, including a supporting base on which said base plate is mounted; and fasteners extending through said base plate into and securing said base plate to said supporting base.

16. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite side walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;

screws securing said arms to said channel bars;
said curtain having a pull bar on its free end and having end portions riding in said track channels;
fixed stop means secured in place on said channel bars by said screws;
stop means fixed on said bar and engageable with said stop means secured by said screws; and
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said end portions of the bars.

17. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
respective vertical guide bars provided with vertical track grooves within which opposite sides of the curtain are engaged for movement between open and closed positions in a vertical plane between the bars;
upwardly opening sockets in upper ends of said track bars clear of said track grooves;
shaft means relatively rotatably supporting said roller and having end portions extending from the opposite ends of the roller;
individual one piece bar arms having lower end portions engaged in said upwardly opening sockets in said track bars and extending in generally longitudinally upward direction from the top ends of said track bars and having free end portions inset relative to said curtain plane;
said shaft end portions directly engaging said inset arm portions and thereby supporting said roller rotatably between said inset arm portions in inset relation to said curtain plane to facilitate movement of the curtain in the track grooves;
said channel bars having opposite side walls defining said track grooves;
throats defined by said side walls on the upper end portions of the bars and opening generally toward said roller to facilitate movement of the curtain sides into the grooves from said roller; and
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said bars.

18. In a roll-up shade assembly according to claim **17,** said curtain comprising slats having interengaged hinge curls, and sound-deadening material carried on bearing surfaces within the hinges provided by said curls, said sound-deadening material comprising thin flat plastic strips secured to at least one of the hinge curls in each hinge.

19. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite side walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said bars;
a member extending between the ends of the channel bars opposite to the arm supporting ends of the bars; and
said hurricane protection frame having means engaging with and held against displacement by said member.

20. An assembly according to claim **19,** said member comprising an angular cross section base plate having a flange between which and said curtain said means on the frame engages.

21. An assembly according to claim **19,** said member comprising a pull bar on the free end of said curtain and including a handle engaged by said means on said frame.

22. An assembly according to claim **21,** including means on said pull bar and said guide track structure for locking said pull bar in a closed curtain position and against displacement relative to said member.

23. In a roll-up shade assembly including a hingedly slatted curtain having one end secured to a roller:
guide track structure within which opposite sides of the curtain are engaged;
arms extending in generally longitudinal direction from one end of said track structure and rotatably supporting said roller;
said guide track structure comprising generally channel-shaped bars;
means anchoring said arms to end portions of said bars in clearance relation to the opposite sides of the curtain;
said channel bars having opposite walls defining respective track channels;
throats defined by said side walls on the end portions of the bars adjacent said roller and opening generally toward said roller to facilitate movement of the curtain sides into the track channels from said roller;
a replaceable hurricane protection frame including a cross arm having end portions thereof attached to said bars; and
sound-deadening means carried by said frame and facing toward and engageable with the curtain.

24. An assembly according to claim **22,** said sound-deadening means comprising elastomeric sponge material of sufficient thickness to press lightly but without curtain-deforming pressure against the curtain.

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