Feb. 27, 1951 A. M. DREFKE 2,543,097

COMBINATION VENTILATOR AND SHADE

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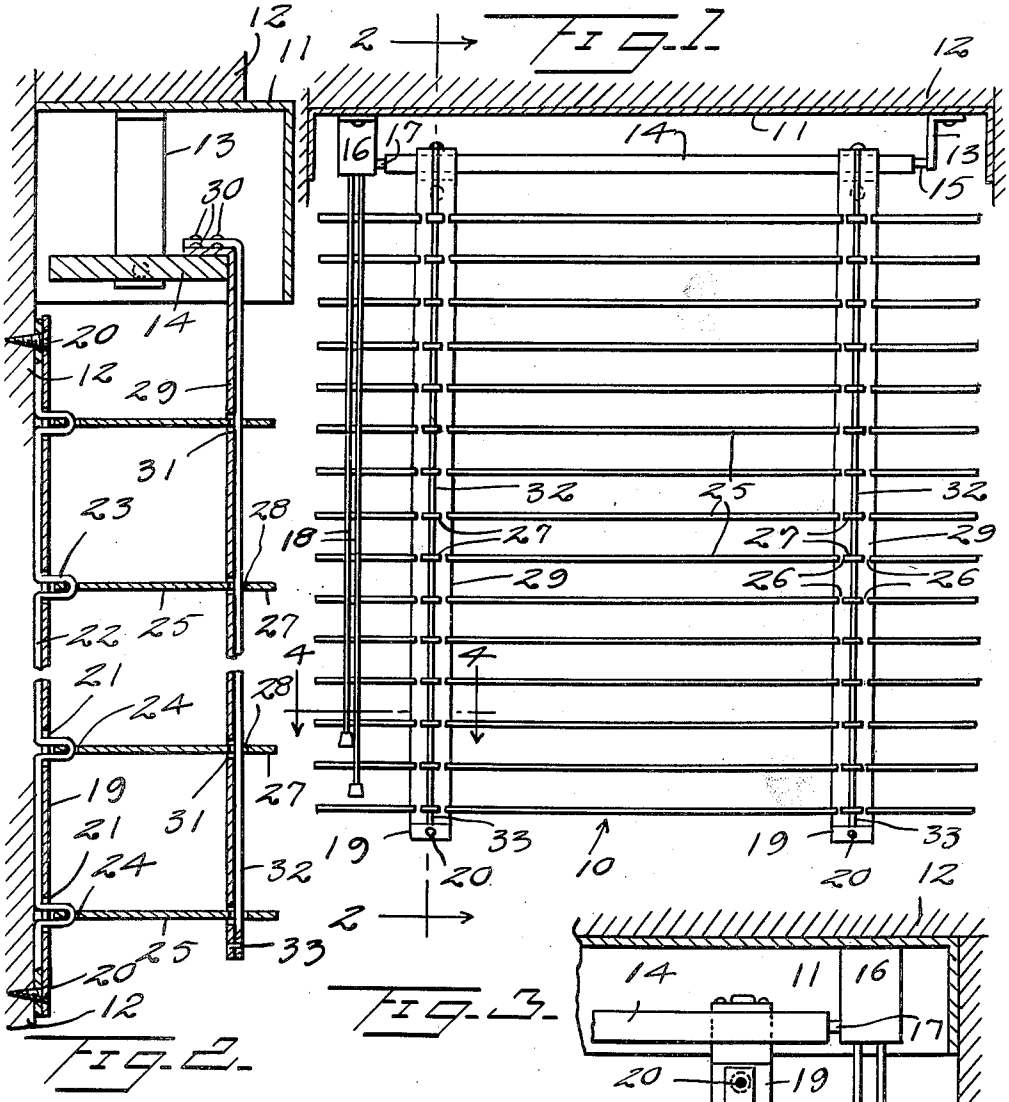


FIG. 1

FIG. 2

FIG. 3

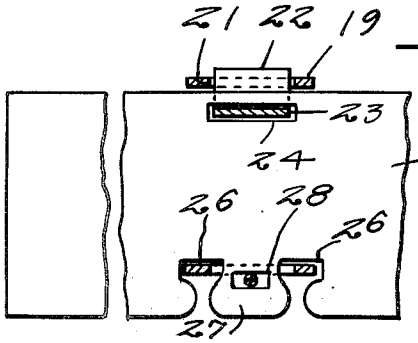


FIG. 4

Inventor

Anna M. Drefke

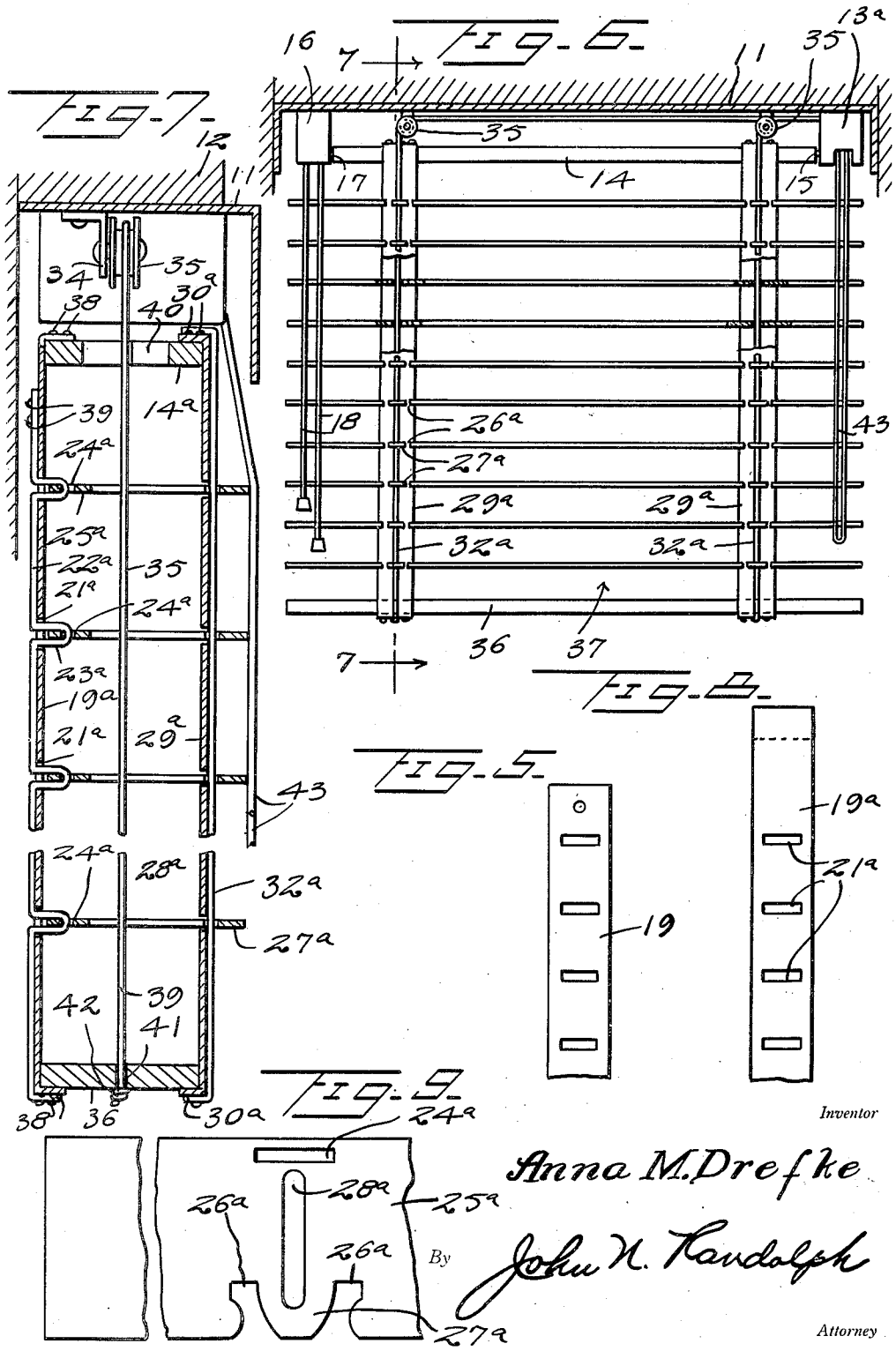
By John N. Randolph

Attorney

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COMBINATION VENTILATOR AND SHADE

Anna M. Drefke, Hackensack, Minn.

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4 Claims. (Cl. 160—166)

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This invention relates to a combination ventilator and shade of the Venetian blind type adapted to be applied to windows and other openings of closures and has particular reference to a novel construction of ventilator and shade slats and a novel construction of mounting means therefor to permit tilting of the slats or tilting and raising and lowering thereof.

More particularly, it is an object of the present invention to provide a ventilator and shade adapted to be supported by conventional Venetian blind hardware and with which the novel slats and tape construction readily adapt themselves to afford a ventilator and shade which will be extremely durable and yet of a simplified construction and which will eliminate the use of small transverse tapes for individually supporting the slats and which are subject to considerable wear and require frequent replacements.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, illustrating a preferred embodiment thereof, and wherein:

Figure 1 is a front elevational view showing one form of the invention in an open position;

Figure 2 is a longitudinal or vertical sectional view thereof taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is a fragmentary rear elevational view of a portion of the ventilator and shade;

Figure 4 is an enlarged horizontal sectional view taken substantially along a plane as indicated by the line 4—4 of Figure 1;

Figure 5 is a fragmentary plan view of a portion of one element of the ventilator and shade of Figures 1 to 4;

Figure 6 is a view similar to Figure 1, partly in section of another form of the invention;

Figure 7 is an enlarged longitudinal sectional view thereof taken substantially along a plane as indicated by the line 7—7 of Figure 6;

Figure 8 is a plan view of one element of the ventilator and shade of Figures 6 and 7, and

Figure 9 is a fragmentary plan view of a portion of one of the slats of the ventilator and shade of Figures 6, 7 and 8.

Referring more specifically to the drawings and first with reference to Figures 1 to 5, the combination ventilator and shade as disclosed therein is designated generally 10 and is adapted to be mounted on conventional Venetian blind hardware including a valance 11 which is suittably secured to the upper portion of a window casing or the like 12 and which is provided at

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one end thereof with a depending hanger bearing 13 for receiving and journaling stub shaft 15 projecting from one end of an upper Venetian blind tilt bar 14. A housing 16 depends from the valance 11 adjacent its opposite end to provide a journal for a stub shaft 17 which projects from the opposite end of the tilt bar 14 and said housing contains conventional gear and pinion means actuated by the pull cords 18 for oscillating the stub shaft 17 to rock the tilt bar 14 in either direction, all in a conventional manner, common to Venetian blind construction. The parts previously described constitute no part of the present invention but have been disclosed merely to illustrate a preferred application and use of the combination ventilator and shade 10.

The ventilator and shade construction 10 includes two or more elongated metal strips 19 which are anchored adjacent their ends by fastenings 20 which are preferably secured in portions of the window casing 12. Each of the strips 19 is provided with a series of correspondingly disposed longitudinally spaced openings 21. A flexible tape or ribbon 22 is disposed behind each of the strips 19 and is anchored adjacent its ends by the fastenings 20 and has spaced portions extending outwardly through the openings 21 to form loops 23 each of which is adapted to engage an elongated opening 24 of a slat 25. The openings 24 extend longitudinally of the slats 25 and are disposed adjacent the back edges thereof. As best seen in Figure 4, the forward edges of the slats 25 in substantially transverse alignment with the openings 24, are recessed to provide two longitudinally spaced corresponding recessed portions 26 located in close proximity to one another and which combine to form a projection 27 which separates the recessed portions 26 and which is preferably widened at its outer end or adjacent the forward edge of the slat 25. The projection 27 is provided with a transversely elongated opening 28 near its inner end.

A flexible tape 29 has one end thereof secured by fastenings 30 to the upper side of the tilt bar 14. Adjacent its forward edge and said tape 29 depends downwardly from said forward edge and is provided with longitudinally spaced transversely extending openings 31 each of which is adapted to engage a projection 27 and so that portions of the tape 29, located on either side of each opening 31 will be disposed in the recesses 26 associated with said projection 27. It will thus be apparent that each of the vertically aligned projections 27 engage an opening 31 of one of the tapes 29 and that a tape 29 is located in front

of each of the rigid strips 19, as illustrated in Figure 1. A cord 32 is secured at its upper end by additional fastenings 30 to the tilt bar 14 and to the upper end of the tape 29 and extends downwardly therefrom on the outer side thereof and through each of the openings 28. The lower ends of the tape 29 and associated cord 32 are secured together in any suitable manner as by means of a fastening or stitching as seen at 33, below the lowermost slat 25 and it will accordingly be readily apparent that the cords 32 function to retain the tapes 29 in engagement with the recesses 26 and projections 27. Accordingly, by rocking the tilt bar 14 in a conventional manner by operation of the pull cords 18, the forward edges of the slats 25 will be swung upwardly and downwardly in unison as the flexible tapes 29 move upwardly or downwardly and said slats 25 will pivot on their connections with the loops 23 of the tape or ribbon 22. Thus, from the foregoing it will be readily apparent that a ventilator and shade of extremely simple construction has been provided the slats of which can be tilted but not raised or lowered and which readily adapt themselves for attachment to and operation by conventional Venetian blind hardware.

Figures 6 to 9 illustrate a slightly modified form of the invention and wherein Venetian blind hardware including a valance 11 supported on the upper part of a window casing 12, a modified hanger bearing 13a depending from the valance 11 adjacent one end thereof and a casing 16 depending from adjacent the opposite end of the valance 11 are provided for journaling the stub shafts 15 and 17, respectively, of the upper tilt bar 14. The valance 11 also supports depending bearing members 34 on each of which is journaled a pulley 35 and the modified bearing hanger 13a contains an additional pulley, corresponding to the pulleys 35, not shown. The conventional Venetian blind hardware also includes a bottom tilt rail 36. The upper tilt rail 14 is manually actuated by pull cords 18, corresponding to those disclosed in Figures 1 and 3.

The modified ventilator and shade, constituting the invention of Figures 6 to 9, is designated generally 37 and in lieu of the metal strips 19 is provided with flexible tapes 19a each of which is secured at its upper end by fastenings 38 to the upper side of the tilt bar 14a and which tapes 19a extend downwardly from the back edge of the tilt bar 14a and are secured at their lower ends by additional fastenings 38 to the under side of the bottom tilt bar 36 and extend around the rear edge thereof. A flexible ribbon 22a, corresponding to the ribbon 22 is disposed behind each tape 19a and secured to its upper end thereto by a fastening means 39 adjacent the top tilt bar 14a and is secured at its lower end to the under side of the bottom tilt bar 36 by additional fastenings 38. Each tape 19a has spaced openings 21a through which loop portions 23a or the associated ribbon 22a projects for engagement with openings 24a of the slats 25a, corresponding to the openings 24 of the slats 25.

As seen in Figure 9, the slats 25a are provided with recessed portions 26a and projections 27a, corresponding substantially to the portions 26 and projections 27 but which may differ slightly in shape. The slats 25a differ primarily from the slats 25 in that the slats 25a are additionally provided with transverse slots 28a in lieu of the longitudinal openings 28 and which slots 28a extend from adjacent the openings 24a into the projections 27a, as clearly illustrated in Figure 9.

A tape 29a, corresponding to the tapes 29 is disposed in front of each tape 19a and is secured in the same manner by fastenings 30a at its upper end to the tilt bar 14a and depends from the front edge thereof. However, the lower end of each tape 29a extends across the front edge of the bottom tilt rail 36 and is secured to the under side thereof by additional fastenings 30a. A cord 32a is associated with each tape 29a and is secured by fastenings 30a to the tilt bars 14a and 36 and is disposed on the outer side of its tape 29a and each of said retaining cords 32a extends through the forward end of a slot 28a of each slat 25a for retaining its associated tape 29a in engagement with an aligned projection 27a of each slat 25a.

A cord end 39 depends from each pulley 35 through an opening 40 in the top tilt rail 14a and through an intermediate portion of an opening 28a of each slat 25a which is disposed in vertical alignment therebeneath. The lower ends of the cord ends 39, as best seen in Figure 7, extends through openings 41 in the bottom tilt rail 36 and are knotted as seen at 42 therebeneath so that the cord ends 29 cannot be drawn upwardly through the openings 41. The cord ends 39 extend from the pulleys 35 into and over the pulley located in the hanger bearing 13a and with the intermediate portion 43 of the cord ends 39 forming a depending loop from said hanger 13a.

From the preceding it will be readily apparent that the pull cords 18 may be actuated for rocking the upper tilt bar 14 on its longitudinal axis to cause the slats 25a and bottom tilt bar 36 to be rocked on their longitudinal axes in either direction. Similarly, by pulling on the cord loop 43, the cord ends 39 will be drawn upwardly over the pulleys 35 for elevating the bottom tilt bar 36 for causing the tapes 19a, 22a and 29a and the cords 32a to form folds between the slats 25a and so that the slats will be successively engaged and raised toward the upper tilt bar 14a thereby providing an extremely simplified means for raising and lowering as well as tilting the slats 25a.

In each form of the invention as previously described it will be noted that the transverse tapes conventionally employed for supporting the slats are dispensed with and as such tapes are subjected to considerable wear and frequently break, it will be readily apparent that the ventilator and shade construction heretofore described will afford not only a simplified but a more durable construction than the conventional Venetian blind.

Various modifications and changes in the embodiments as disclosed are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. In combination with an upper Venetian blind type tilt bar and manually actuated means for rocking said tilt bar on its longitudinal axis; a plurality of ventilator and shade slats adapted to be disposed beneath said tilt bar and each being provided with a plurality of longitudinally extending openings and pairs of recesses opening outwardly of corresponding edges of said slats and forming projections therebetween, a plurality of tapes having longitudinally spaced openings therein, means for anchoring the ends of said tapes beyond the upper and lowermost of said slats, a flexible ribbon disposed behind each of said tapes and having a loop portion extending through each tape opening and engaging a cor-

responding longitudinal opening of each slat for pivotally supporting said slats adjacent corresponding longitudinal edges thereof on said tapes, a plurality of second tapes each disposed in front of one of said first mentioned tapes and each having an upper end anchored to the tilt bar and depending therefrom, said second tapes each being provided with longitudinally spaced transverse openings each engaging a corresponding projection of each slat, each of said second tapes having portions disposed adjacent each of said openings and detachably fitting into the pair of recesses of the slats located adjacent each projection, said slats each having a retaining cord receiving opening associated with each of its projections, and a retaining cord associated with each of the second tapes and anchored at its ends to the ends thereof and extending along the outer side of its second tape and through a retaining cord opening of each slat for retaining the second tapes in engagement with a projection of each slat, said second tapes being raised and lowered by a rocking movement of the tilt bar for tilting the slats in unison either upwardly or downwardly relatively to the first mentioned tapes and on the loop portions of the ribbons.

2. A ventilator and shade structure as in claim 1, said first mentioned tapes comprising substantially rigid metal strips adapted to be secured adjacent their ends to portions of a window casement.

3. In combination with conventional Venetian blind hardware supported on a window frame and including an upper tilt bar provided with actuating means for rocking said upper tilt bar on its longitudinal axis and a lower tilt bar provided with pull cord means for raising and lowering it relatively to the upper tilt bar; a plurality of front and rear flexible tapes attached at their ends to the upper and lower tilt bars adjacent the forward and rear edges, respectively, thereof, said front and rear flexible tapes having corresponding longitudinally spaced openings therein,

a flexible ribbon secured at its ends to each of the rear tapes and on the rear side thereof and having loop portions extending forwardly through each of the openings of the rear tapes, a plurality of slats having correspondingly disposed openings adjacent the rear edges thereof each adapted to be engaged by one of said loop portions for pivotally mounting a portion of each slat relatively to each of said rear tapes, each of said slats having recesses in the forward edge thereof for accommodating a portion of each of the front tapes and including a projection extending into each recess and through an opening of each of said front tapes, each of said slats having an opening extending into each of the projections thereof, and a retaining cord anchored adjacent its ends to the outer side of each front tape and extending through each of the last mentioned openings of the slats for retaining the front tapes in engagement with said projections, said upper bar being adapted to be tilted on its longitudinal axis in either direction for tilting each of sad slats in either direction and said pull cord means being adapted to be actuated for raising or lowering the bottom tilt bar for either raising or lowering said slats.

4. A ventilator and shade construction as in claim 3, said last mentioned openings of the slats extending to adjacent the first mentioned openings thereof, and said pull cord means extending through portions of each of said last mentioned openings between the upper and lower tilt bars.

ANNA M. DREFKE.

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