May 14, 1929. N. SCHIFF 1,713,452

WINDOW SHADE

Filed Nov. 26, 1926 2 Sheets-Sheet 1

Fig. 1.

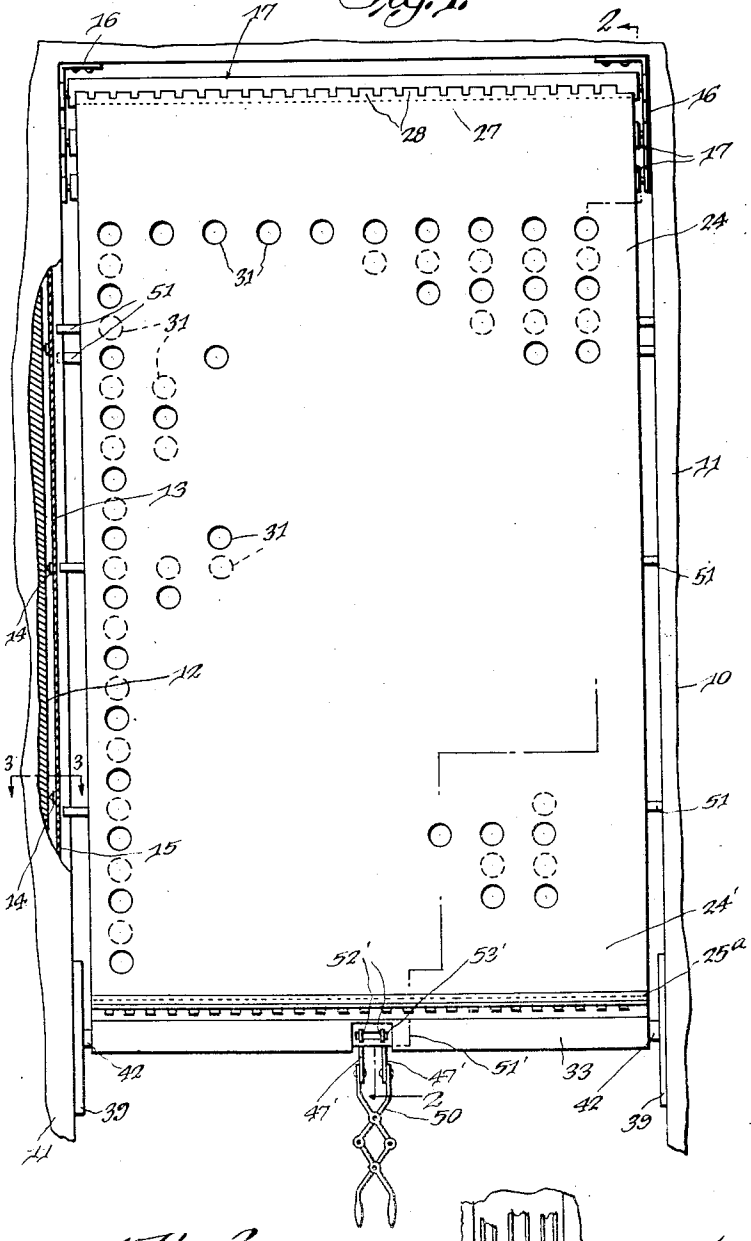


Fig. 2.

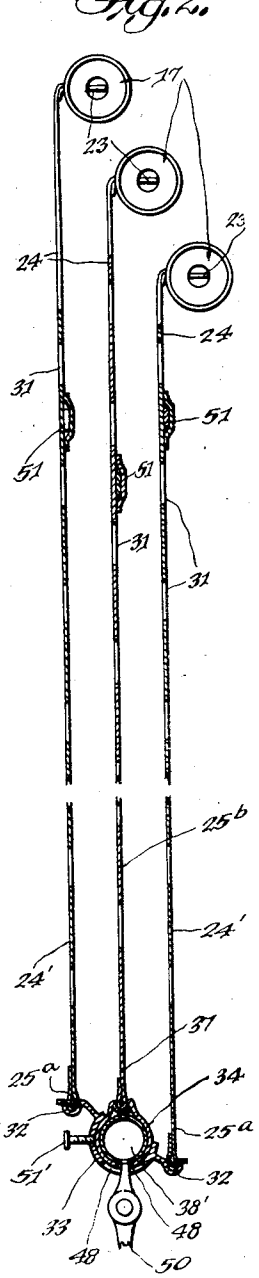


Fig. 3.

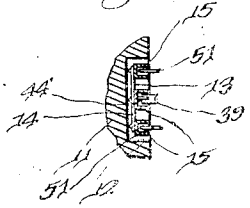
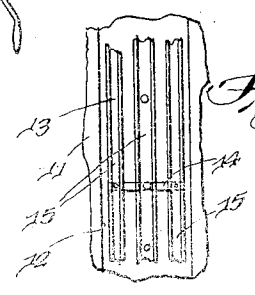


Fig. 4.



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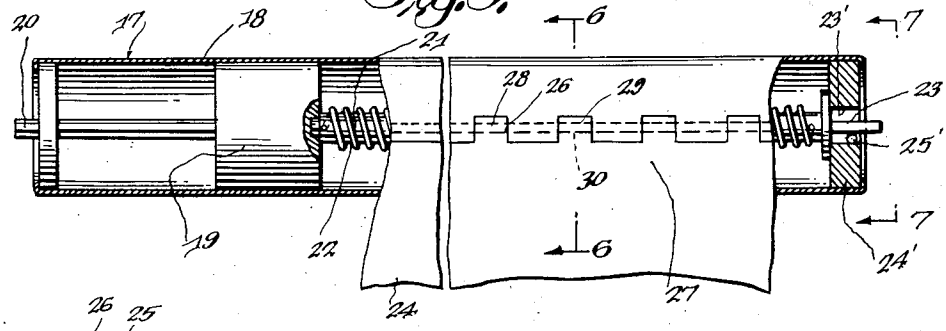
ATTORNEY

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WINDOW SHADE

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Fig. 5.



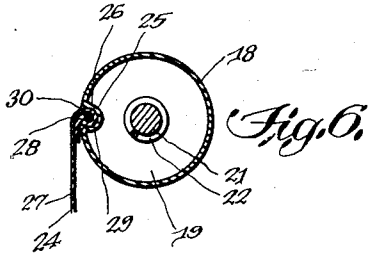


Fig. 6.

Fig. 7.

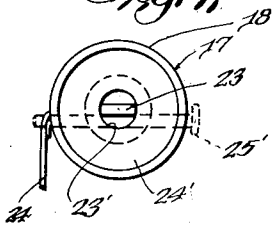


Fig. 8.

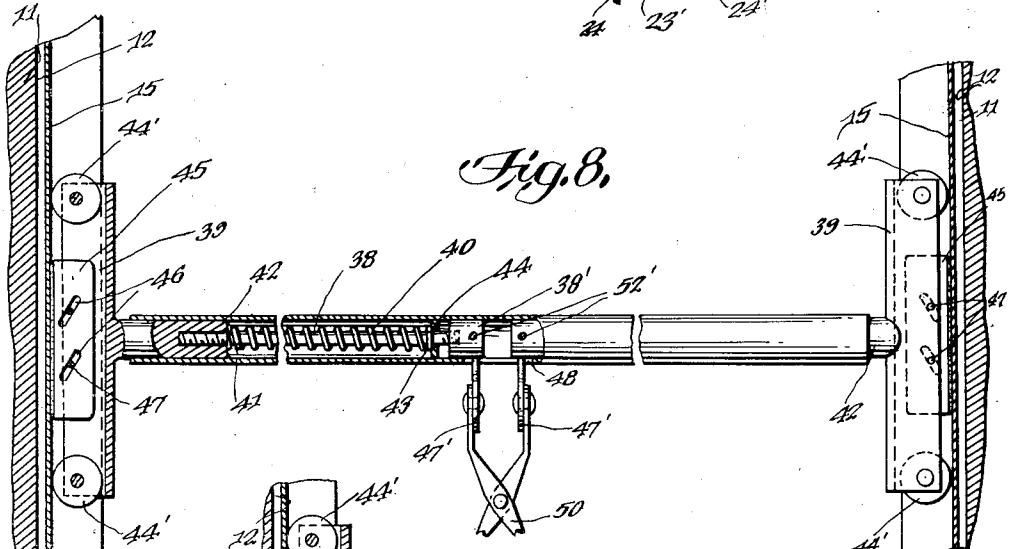
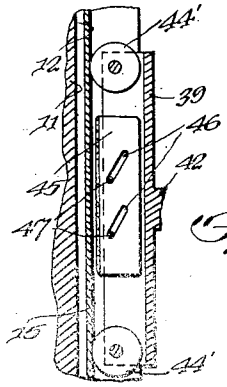


Fig. 9.



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UNITED STATES PATENT OFFICE.

NATHAN SCHIFF, OF CHICAGO, ILLINOIS.

WINDOW SHADE.

Application filed November 26, 1926. Serial No. 150,914.

This invention relates to certain novel improvements in window shades and more particularly to a window shade utilized for permitting ventilation within a room while obstructing view therewithin and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

Other objects will appear hereinafter.

The invention consists in the combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings illustrating the preferred form of my invention, and in which:

Fig. 1 is an inside elevational view of a window construction showing the invention associated therewith.

Fig. 2 is a sectional detail view taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary sectional detail view taken substantially on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary side elevational view of the guide members illustrated in Fig. 3.

Fig. 5 is a part sectional detail view of one of the shade rollers embodied in the invention.

Fig. 6 is a sectional detail view taken substantially on line 6—6 of Fig. 5.

Fig. 7 is an end elevational view of the shade roller taken substantally on line 7—7 of Fig. 5.

Fig. 8 is a part sectional detail view of a guiding arrangement embodied in the invention, and

Fig. 9 is a fragmentary end elevational view of the guiding arrangement illustrated in Fig. 8.

In the drawing, 10 indicates a window construction with which my invention is associated. This window construction includes side jambs 11 having longitudinal grooves 12 formed therein. Arranged in each of these grooves 12 is a guiding structure 13. This guiding structure 13 includes a back plate 14 having secured thereto guide channels 15 for reasons hereinafter set forth.

Secured to the side jambs are roller supporting plates 16 which support the rollers 17 in offset position with respect to each other. Each of these rollers 17 includes a housing 18 within which is arranged a filler core 19 carrying a trunnion 20 which is adapted to be positioned in an opening formed in the plate 16. Secured to the filler core 19 is one end portion of a spring 22 arranged about a rod 21. The opposite end portion of this spring is secured to the rod 21 in a well known manner. This rod 21 has a trunnion 23 which is adapted to engage in an opening formed in the adjacent plate of the plates 16. This trunnion 23 is substantially rectangular in cross section and projects through an opening 23′ formed in a core 24′. This core 24′ removably supports a pin 25′. This pin 25′ is utilized for retaining the spring under tension when the roller is not disposed in an operative position with its trunnions engaged in the holes of the plates 16.

To these rollers 17 are attached the shades 24. Each of these shades 24 is connected to its respective roller in the following manner. Formed in each roller are aligned bearing sleeves 25. These bearing sleeves 25 are formed in the roller by forming depressions 26 in a longitudinal direction in one side of the roller. The shades 24 each have at its upper end portion 27 spaced extensions 28 which are turned upon themselves to provide loops 29. These loops 29 are arranged within the depressions 26 and when in such position a rod 30 is inserted through the bearing sleeves 25 and loops 29, thus providing an effective connection between the shade and its respective roller.

Each of the shades 24 has a plurality of openings 31 formed therein for reason hereinafter set forth, thus making each of the shades a reticulated member.

As shown in Fig. 2 the shades are arranged in parallel relation with respect to each other and the outer shades indicated at 24′ have their lower end portions 25^a secured to sleeves 32 in substantially the same manner as securing each of the shades to their respective rollers. These sleeves are formed as an integral part of a sleeve 33 which sleeve embraces a stiffening sleeve 34. The inner shade indicated at 25^b has its lower end portion 37, Fig. 2, connected to the sleeve 34 in the same manner as its upper end portion is secured to the housing 18.

Slidably arranged within the stiffening sleeve 34 are aligned operating rods 38 carrying at their outer end portions guiding

arms 39. Embracing the operating rods 38 are spring members 40 which have their outer end portions 41 abutting projections 42 which afford connection between the arms 39 and the operating rods 38. The inner end portions 43 of the springs bear against an annular flange 44. Thus it will be seen that the springs 40 function to retain the guide arms 39 in their outer positions. The guide arms 39 carry rollers 44′ which work within the intermediate guide channels 15 and self-adjustably connected to the guide arms are retaining plates 45 which engage the bight portions of the intermediate channel guides 15. These retaining plates 45 have formed therein diagonal slots 46 and passing through these slots 46 are pins 47 which provide slidable connection between the guide arms 39 and the retaining plates 45.

Means is provided for moving the guide arms 39 toward each other and in the present instance this means includes fingers 52′ which project through a slot 53′ formed in the sleeve 34 and have their inner end portions connected in a suitable manner to the blocks 38′ which are secured to the operating rods 38. Thus it will be seen that by disposing the fingers 52′ between the thumb and index finger of the hand in one instance, the fingers 52′ will be moved toward each other whereby to move the operating rods 38 against the action of the spring 40 to disengage the guide arms 39 from holding position within the channels within which they engage.

Means is also provided for raising and lowering the shades and for moving the arms from their operating position within the guide channels when the shades are disposed in such position that the fingers 52′ cannot be reached and in the present instance this means includes depending arms 47′ which are secured to the operating rods 38 through the medium of the blocks 38′. These arms 47′ extend downwardly through slots 48 formed in the sleeves 33 and 34 and connected to the outer end portions of the arms 47 is a lazy tong 50. By operating the lazy tong in a well known manner the operating rods will be moved toward each other and during this movement move the guide arms from bearing relation with respect to the intermediate fingers 15 while at the same time permitting convenient raising and lowering of the shades.

As shown in Fig. 2 the outer shades 24′ have connected thereto guide strips 51 which have their opposite end portions engaged in the outer guide channels 15, said outer guide channels having their upper end portions opened to permit guide strips to be disposed about the shade rollers when the shades are arranged in their uppermost position.

In positioning the shades in proper position the rollers 17 have their trunnions arranged in their respective openings formed in the plates 16. When the shades are wound upon the rollers the springs 22 will be compressed whereby to re-wind the shades on the rollers in the usual manner. When the shade rollers are arranged in their respective positions the guide strips and guide arms are arranged in proper position with respect to the window opening.

It is intended that the openings of one of the shades be staggered with respect to the openings of the other shades whereby when atmospheric air enters through the opening of the window construction it will take a zig-zag course and be somewhat retarded as it emerges through the openings of the inner of the window shades. Thus it will be seen that when the window sash of the window construction is open and the shades are arranged over the opening the draft will not have its full force in going through the window opening.

When it is desired to adjust the window shades vertically with respect to the window construction the guide arms are moved, in a manner herein set forth, from bearing relation within the intermeditate guide channels 15. The shades are then lowered in unison and when in proper or predetermined lowered position the guide arms 39 are permitted to move into bearing relation with respect to the intermediate channels 15. This disposes the retaining plates 45 against the bight portions of the channels and any tendency of winding movement of the shades about the rollers 17 by action of the springs 22 will cause the retaining plates to wedge between within the bight portions of the channels thus releasably latching the shades in a proper adjusted position.

By the novel connection between the outer shades 24′ and the stiffening roller 34 it will be seen that the shades may be adjusted relative to each other whereby to dispose the openings from or into aligned relation with respect to each other and this is accomplished by rotating the sleeve 33 about the stiffening roller 34 and then securing the sleeve in desired adjusted position to retain the shade in predetermined adjusted position with respect to each other.

Attention is directed to the fact that the channels 15 are adjustably connected together through the medium of a back plate 14. This connection is such that the channels may be adjusted relatively to each other whereby to dispose the shade members toward or away from each other as required.

From the above description it will be manifest that my improved window shade construction will permit proper ventilation of a room. The arrangement permits atmospheric air to come into the room while at the same time the shade members afford the

necessary shade protection when the shade members are pulled down and also obstructing view to the inside of the room as well as from the inside to the outside of the room. Ventilation of the room by use of my improved shade member may take place without fear of getting the full force of the draft upon one's person. This is due to the fact that the holes formed in the shade members are staggered with respect to each other and as the draft enters through the holes the force of the draft is broken.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A shade construction including, a plurality of individual shade members arranged in spaced parallel relation and having openings formed therein, rollers adapted to be mounted at the upper portion of a structure adapted to receive one end of said shade members for winding thereon, a sleeve, means for connecting one of said shade members to said sleeve, means having adjustable connection with the sleeve, means for connecting other of the shade members to said means whereby said second mentioned shade members may be adjusted relative to said first mentioned shade member, means for locking said sleeve and said adjustable means, and means carried by said sleeve adapted to engage portions of said structure adapted to hold said shade members in various unwound positions.

2. A shade construction including, a plurality of individual shade members arranged in spaced parallel relation and having openings formed therein, rollers adapted to receive one end of said shade members for winding thereon, a sleeve, means connecting said sleeve to one of said shade members, a second sleeve having adjustable connection with the first named sleeve, means for connecting the remaining of said shade members to said second mentioned sleeve, means for locking said sleeves in various positions whereby to adjust the relation between said shade members, means adapted to engage portions of a shade supporting structure carried in the ends of said first named sleeve, and spring urged members in said sleeve adapted to force said supporting structure engaging members into engaging position.

3. A shade construction including, a plurality of individual shade members arranged in spaced parallel relation and having openings formed therein, rollers adapted to receive one end of said shade members for winding thereon, a sleeve, a second sleeve having adjustable connection with the first named sleeve, means for connecting the remaining of said shade members to said second mentioned sleeve, means for locking said sleeves in various positions whereby to adjust the relation between said shade members, means adapted to engage a supporting structure carried in the ends of said first named sleeve, spring urged members in said sleeve adapted to force said supporting structure engaging members into engaging position, and means for releasing tension on said spring urged members at predetermined times.

4. In a device of the class described, a sleeve, a second sleeve disposed around said first named sleeve, means for locking said second named sleeve in adjusted positions relative to said first named sleeve, outwardly protruding arms on said second mentioned sleeve, means for connecting the free ends of shade elements to said arms, means for connecting the free end of a shade element arranged intermediate said first named shade elements to said first named sleeve, said second mentioned sleeve being adapted to be moved relative to said first named sleeve whereby to adjust the shade elements connected thereto relative to the shade element connected to said first named sleeve.

5. A device of the class described including a sleeve, a second sleeve disposed around said first named sleeve, means for locking said second mentioned sleeve in adjusted positions circumferentially with respect to said first mentioned sleeve, outwardly protruding arms on said second mentioned sleeve, means for connecting the free ends of parallelly arranged shade elements to said arms, means for connecting the free end of a shade element arranged intermediate said first mentioned shade elements to said first mentioned sleeve, said second mentioned sleeve being adapted to be adjusted circumferentially with respect to said first mentioned sleeve whereby to vary the relative position of the shade elements connected to the arms carried thereby with respect to said intermediate shade element, structure engaging members at the outer ends of said first mentioned sleeve, yieldable members adapted to force said structure engaging members in a direction away from the ends of said sleeve, and means adapted to restrain the action of said yieldable means adapted to be arranged whereby said yieldable means may be moved so as to release said tension such that said sleeves may be adjusted relative to a supporting structure.

6. In a device of the class described, a sleeve having the upper portions thereof ar-

ranged to provide an outwardly opening groove, a second sleeve having a portion of the periphery cut therefrom whereby to provide an open arcuate portion, said second mentioned sleeve being adapted to be disposed around said first mentioned sleeve with the open arcuate portion thereof disposed on each side of the portion providing said groove, said second mentioned sleeve having arms extending outwardly therefrom adjacent the edges defining said cut away arcuate portion, parallelly disposed shade elements adapted to have the lower end portions thereof connected to the outer ends of said arms, a shade element arranged intermediate said first named shade elements adapted to have the lower free end thereof connected in the groove provided in said first mentioned sleeve, said second mentioned sleeve being adapted to be moved circumferentially relative to said first mentioned sleeve whereby to move the shade elements carried thereby relative to said intermediate shade element, and means carried by said second mentioned sleeve adapted to engage said first mentioned sleeve adapted to lock said second mentioned sleeve in various adjusted positions relative to said first mentioned sleeve.

7. In a device of the class described, a sleeve having the upper portions thereof arranged to provide an outwardly opening groove, a second sleeve having a portion of the periphery cut therefrom whereby to provide an open arcuate portion, said second mentioned sleeve being adapted to be disposed around said first mentioned sleeve with the open arcuate portion thereof disposed on each side of the portion providing said groove, said second mentioned sleeve having arms extending outwardly therefrom adjacent the edges defining said cut away arcuate portion, parallelly disposed shade elements adapted to have the lower end portions thereof connected to the outer ends of said arms, a shade element arranged intermediate said first named shade elements adapted to have the lower free end thereof connected in the groove provided in said first mentioned sleeve, said second mentioned sleeve being adapted to be moved circumferentially relative to said first mentioned sleeve whereby to move the shade elements carried thereby relative to said intermediate shade element, and means carried by said second mentioned sleeve adapted to engage said first mentioned sleeve adapted to lock said second mentioned sleeve in various adjusted positions relative to said first mentioned sleeve, substantially T-shaped members having the stem portions thereof mounted on the end portions of said first mentioned sleeve, spring means adapted to urge said substantially T-shaped members away from the end portions of said sleeve, and means for moving said substantially T-shaped members inwardly against the action of said spring members.

8. In combination with a plurality of parallelly disposed reticulated rolling shade members, a sleeve, means for connecting the free end of one of said shade members to said sleeve, means having adjustable connection with said sleeve, means for connecting the free ends of the other of said shade members to said last mentioned means whereby said last mentioned shade members may be moved relative to said first mentioned shade member as said means is adjusted relative to said sleeve, and means for guiding said shade members during their rolling and unrolling action.

9. In combination with a plurality of parallelly disposed rolling shade members having openings provided therein, a sleeve, means for connecting one of the shade members to said sleeve, means having adjustable connection with the sleeve and having connection with the other of the shade members whereby said other shade members may be adjusted relative to said first mentioned shade member, means for guiding said shade members during their rolling and unrolling action, said last mentioned means including guide channels adapted to be arranged parallel to said shade members, and adjustable members carried by said first mentioned sleeve adapted to operate in said guide channels.

10. In combination with a plurality of parallelly disposed rolling shade members having openings provided therein, a sleeve, means for connecting the free end of an intermediate of shade members to said sleeve, means having adjustable connection with said sleeve and having connection with the free ends of outwardly disposed of said shade members whereby said outwardly disposed of said shade members may be adjusted relative to said intermediate shade members, means for locking said last named means in various adjusted positions, means arranged parallel with said shade members adapted to guide said shade members during their rolling action, means carried by said shade members adapted to travel in said guiding means, and means carried by said sleeve adapted to engage said guiding means whereby to lock said shade members in various unrolled positions.

11. In a combination with a plurality of parallelly disposed rolling shade members having openings provided therein, a sleeve, means for connecting the free end of an intermediate of shade members to said sleeve, means having adjustable connection with said sleeve and having connection with the free ends of outwardly disposed of said shade members whereby said outwardly disposed of said shade members may be ad-

justed relative to said intermediate shade members, means for locking said last named means in various adjusted positions, means for guiding said shade members during their rolling movement including guide channels adapted to be arranged parallel thereto, means carried by said shade members adapted to travel in said guide members, adjustable members carried by said sleeve adapted to operate in said guide channels, and means for releasably retaining said adjustable members in said guide channels whereby to hold said shade members in various unrolled positions.

In testimony whereof I affix my signature.

NATHAN SCHIFF.