

April 29, 1924.

A. C. HOUGH

1,492,544

SLAT SHADE

Filed May 27, 1922

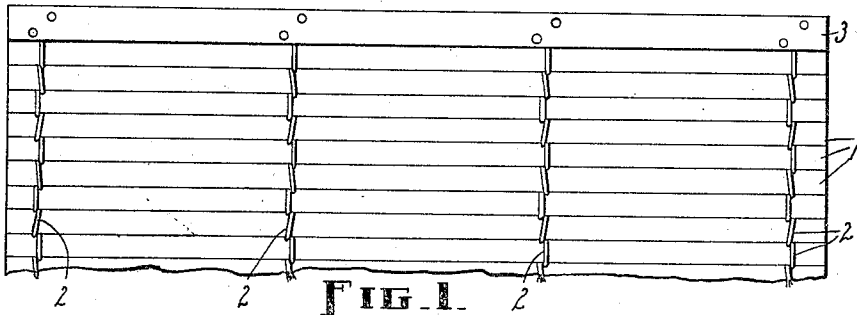


FIG. 1.

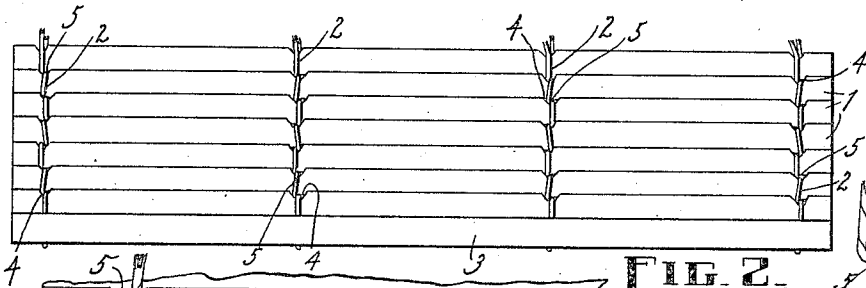


FIG. 2.

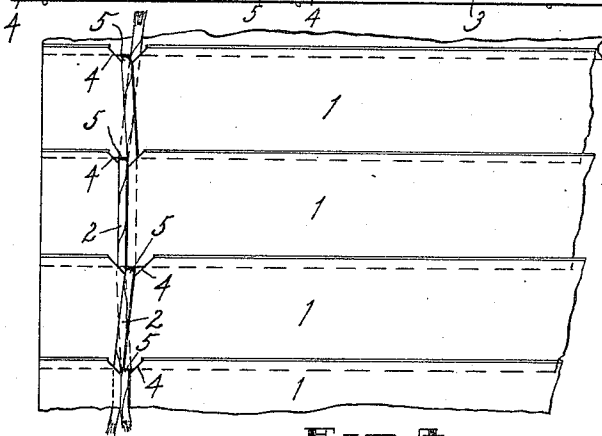


FIG. 3.

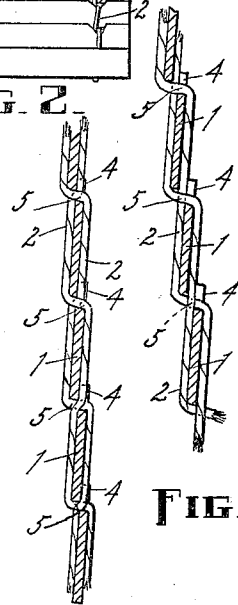


FIG. 4.

FIG. 5.

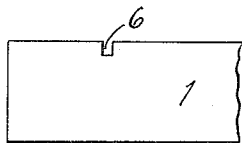
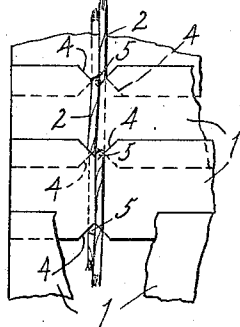


FIG. 6.

FIG. 7.

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SLAT SHADE.

Application filed May 27, 1922. Serial No. 564,006.

To all whom it may concern:

Be it known that I, AZEL C. HOUGH, a citizen of the United States of America, and a resident of Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Slat Shade, of which the following is a specification.

My invention relates to improvements in flexible, roll-up shades the weft of which consists usually of wood slats and the warp of cords or the like which are interwoven with said slats, and resides in a shade made up of these elements wherein the weft members or slats overlap, it having been found expedient, so far as at present advised, to indent, recess, or notch the slats for the passage of the warp strands, all as hereinafter set forth.

The woven slat shade of the old type was constructed in such a manner as to leave spaces between the weft members through which the light passes when the shade is let down for use as a screen against the sun's rays, on the one hand, and the rain passes when the shade is used as a shield against the same, on the other hand. This feature is objectionable, and especially so when the sun is shining brightly or rain is beating against the extended shade. The primary object of my invention is, therefore, to produce a slat shade, woven with an overlap, which excludes practically all of the light, and rain as well, when the shade is let down or otherwise extended for use, it being understood that, since the shade is flexible, it may be rolled up or withdrawn from the normal light- and rain-excluding position. This object is attained by means of the overlap weave whereby each intermediate slat is caused to extend beyond the slats, immediately above and below, or, in other words, to have each longitudinal-edge portion lapped over or onto the longitudinal-edge portion of the contiguous slat. To this end, at the present time, I form recesses in the upper edge of a slat for the passage of the warp cords from the slat above said first-named slat, such cords extending beneath said second-named slat and passing through said recesses at approximately right-angles to the face of either of said slats. Each of the aforesaid recesses is necessarily located in the top of its slat adjacent to the point

where a warp cord from the slat above passes from beneath said last-named slat.

Another object is so to construct the shade that the lapped portions of the slats are in complete or approximately complete contact throughout practically their entire lengths, thus rendering the shade more nearly or quite light-proof and rain-proof.

A further object is to produce a shade which is strong and durable, since the interwoven warp cords are anchored, so to speak, in the openings in the slats and can have little or no independent lateral movement, and at the same time they secure the slats in place, and hold them against independent endwise movement, and absolutely prevent end-lash.

This shade is simple in construction, stronger and more durable than the ordinary shade in which interstices are present between the slats, and can be rolled and unrolled with the same facility as the ordinary shade.

Other objects and advantages will appear in the course of the following description.

I attain the objects and secure the advantages of my invention by the means illustrated in the accompanying drawings, in which—

Figure 1 is an outside or front elevation of the upper portion of a slat shade which embodies a practical form of my invention; Fig. 2, an inside or rear elevation of the lower portion of such shade; Fig. 3, an enlarged, inside or rear elevation of a fragmentary part of said shade; Fig. 4, an enlarged, vertical section through a portion of the shade; Fig. 5, an enlarged, rear elevation of a fragmentary part of a shade, illustrating a modification; Fig. 6, a fragment of a slat showing a modified form of a recess or notch therein for the warp, and, Fig. 7, a section similar to that shown in Fig. 4, but showing the overlapping portions of the slats in contact with each other.

Similar reference characters designate similar parts throughout the several views.

I have illustrated in Figs. 1 and 2 portions of a shade of the type to which my invention relates, and in which shade or portions thereof my invention is embodied, there being comprised in such portions a plurality of weft units or slats 1, which are

usually made of wood, but might be made of any other suitable material, and a plurality of warp units or cords or equivalent members 2. There are also present the customary top and bottom moldings 3. In such a shade one warp cord may pass down on the outer or front side of a slat, next inwardly or rearwardly between said slat and the next slat below, and then down on the inner or rear side of said second-named slat; while another warp cord may pass down on the rear side of said first-named slat and on the front side of said second-named slat, next rearwardly between the latter and a third slat, and then down on the rear side of said third slat. More or less variation in the style of weave may be made, but for the present purpose the particular style just described and which is illustrated in connection herewith has been found to be practicable and probably more suitable than some other style. Four warp units each consisting of two cords 2 are shown in the present example.

On one side of this shade each intermediate slat 1 at the bottom laps over the slat below at the top, while on the other side of said shade the reverse of this order or arrangement is found, the upper-edge portion of each intermediate slat lapping onto the lower-edge portion of the slat above. In view of the overlapping arrangement of the slats 1 just described, the side of the shade whereon are exposed the lower-edge portions of the slats 1 is the outer or front side of the shade, because when said shade is hung with such side exposed to the elements rain passes down the same without penetrating the shade, just as in the case of clapboards. It therefore follows that the side of the shade whereon the upper-edge portions of the slats 1 are exposed is the inner or rear side. With these distinctions as to sides in mind, the manner in which the warp strands 2 are interwoven with the weft slats will be understood.

There is a recess or notch 4 located in the upper edge of each slat 1, except the uppermost slat, in proper position to receive that part of each cord 2 that passes rearwardly from beneath the next slat above—see Figs. 3 and 4. A reach of each cord extends across the front side and the rear side of two adjacent slats 1, respectively, and said cord above said reach extends through a notch 4 in the upper of said slats and beneath and to the front side of the slat above said two slats, and below said reach extends beneath the lower of said two slats and through a notch 4 in the slat below said two slats and to the rear side of said last-named slat. Cross-over portions, represented at 5, are thus formed of the two cords in each warp unit, and such portions, which are adjacent to

each other are alternately arranged, that is to say, one such portion is either above or below the other.

The notches 4 admit the cross-overs 5 at points below the upper edges of the slats 1 in which said notches are located, and thus permit the slats to be interwoven with the cords 2 in such a manner that the slats extend beyond or lap by each other at their top and bottom edges. A reach between any two cross-overs 5 of one of the cords 2 in a warp unit, together with said cross-overs, connects and, with the assistance of a cross-over 5 and parts of two reaches of the companion cord 2, holds in place two adjacent slats 1; and each of these slats, with another slat either above or below as the case may be, is connected by one of said two reaches of said companion cord, together with the cross-overs at the top and bottom of said last-named reach. Thus is formed for each slat a complete loop which extends above and below and on both sides of said slat, the top of said loop being, however, in the bottom of one of the slots 4 and therefore below the top edge of said slat. In this manner the woven portion of the shade is made complete and of a strong and durable character.

The recesses or notches in the slats for the cross-overs may differ in shape and size. They may be V-shaped as shown in Figs. 2, 3, and 4, or they may have some other shape such as that shown in Fig. 6, wherein a rectangular recess is represented at 6. The depth of these indentations for the cross-overs 5 determines, of course, the amount of overlap of the slats 1, since those portions of each slat that extend above the cross-overs, in the indentations in said slat project onto or above the bottom edge of the slat above.

If it be desired that the slats lie in overlapping contact throughout approximately their entire lengths, instead of being separated by the reaches of the cords 2 which pass alternately on the inner and outer sides of adjacent slats, the recesses in the slats may be large enough to receive the portions of such reaches that are contiguous with the cross-overs that pass through such recesses. As is clearly apparent, this construction enables the overlapping portions of the slats to contact with each other—see Fig. 7.

It is conceivable that recesses (as 4) might also be formed in the under edges of the slats for the passage of the cross-overs 5, as shown in Fig. 5. This provision would strengthen the construction, and make it possible for the overlapping portions of the slats to be in contiguity, but ordinarily is not believed to be necessary or even desirable.

As is clearly shown in the drawings, the

notches 4, in their vertical arrangement, are in offset relationship, so as to accommodate the cross-overs which pass through them and are alternately arranged on opposite
5 sides of the contiguous reaches.

More or less change in the shape, size, construction, and arrangement of some or all of the parts and members of this shade, in addition to those hereinbefore specifically
10 pointed out, may be made without departing from the spirit of my invention, or exceeding the scope of what is claimed.

What I claim as my invention, and desire to secure by Letters Patent, is—

15 As an improved article of manufacture, a slat shade comprising recessed weft units, and warp units each consisting of two cords, one of which cords passes down on

the outer side of a slat, beneath the same and through a recess in the slat below, and
20 down on the inner side of said last-named slat, and the other of which cords passes through a recess in said first-named slat, down on the inner side of said slat and on
25 the outer side of said second-named slat, and beneath the latter, said cords crossing each other in the weaving, and said recesses vertically being in offset relationship to accommodate the crossed cords, and of a sufficient size to permit said slats to have an
30 overlapping contact with each other.

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Witnesses:

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HAZEL T. WEIRICK.