Aug. 8, 1939 F. E. LESLEY 2,169,103

LAMINATED MESH ROLLER SHADE

Filed Aug. 7, 1937

Fig. 1

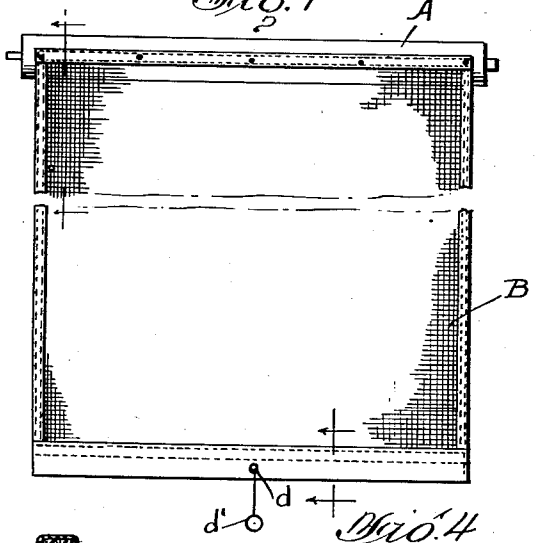


Fig. 2

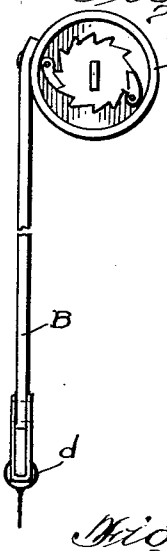


Fig. 8

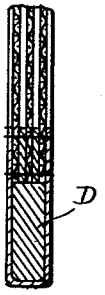


Fig. 4

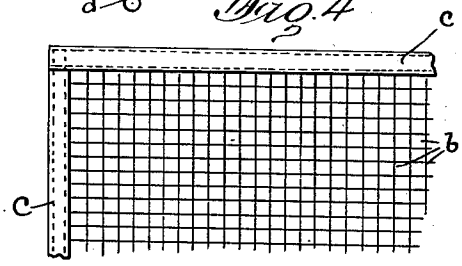


Fig. 10.

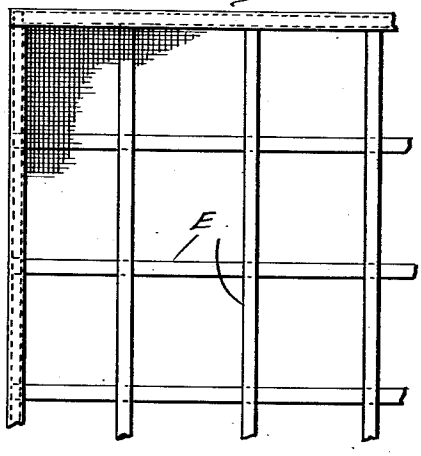


Fig. 3

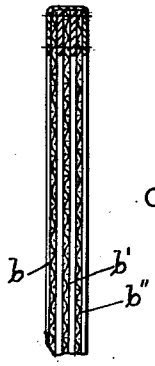


Fig. 5

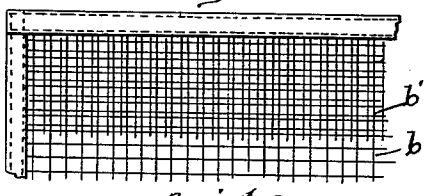


Fig. 6

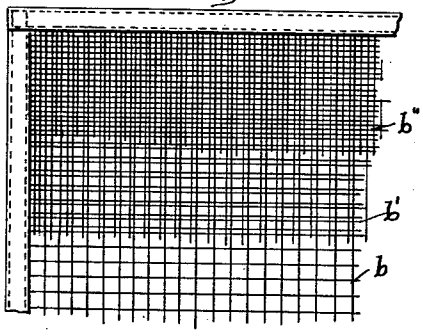


Fig. 7

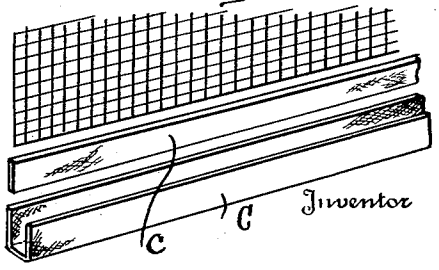
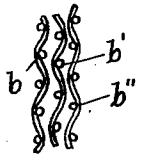


Fig. 9.



Inventor

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LAMINATED MESH ROLLER SHADE

Francis Edgar Lesley, Cincinnati, Ohio

Application August 7, 1937, Serial No. 157,839½

1 Claim. (Cl. 156—10)

The conventional window arrangement includes the use of a cloth roller shade for regulating the admission of light and a metallic screen, the latter to secure ventilation and prevent the entrance of insects. When the shade is lowered the ventilation through the screen is intercepted and thus the function of this device is substantially eliminated. From the foregoing it will be obvious that the use of the shade and screen combination in many instances is unsatisfactory, particularly when the full lowering of the shade for light control is essential. In addition to this phase of the problem there is no provision for preventing the entrance of dust and dirt through the screen and as a result unsanitary atmospheric conditions prevail in most instances and particularly where the house or other building is located adjacent a street or boulevard.

The present invention seeks to eliminate the undesirable features suggested above by providing a shade structure which will prevent the entrance of direct light rays without interfering with illumination, and which will not interfere with ventilation, but will filter dust, dirt and the like passing therethrough.

More specifically, this invention provides a shade structure capable of use on the conventional spring roller, which has a laminated mesh so constructed and arranged as to permit the entrance of ample air for ventilation and at the same time capable of stopping the passage therethrough of dust, dirt and other impurities in the air.

Another feature resides in the novel structure and formation of the assembly permitting cheap manufacture and assembly.

Other objects will more clearly hereinafter appear by reference to the accompanying drawing forming a part of this specification and wherein like numerals of reference designate corresponding parts throughout the several views, in which—

Fig. 1 is a front elevation.

Fig. 2 is a side elevation.

Fig. 3 is a fragmentary vertical section through the upper portion of the shade.

Figs. 4, 5, and 6 show in plan the steps in assembly of the fabric structure.

Fig. 7 shows in perspective some of the parts of one of the marginal edges disassembled.

Fig. 8 is a section taken at the lower edge of Fig. 1.

Fig. 9 is an enlarged view of the fabric mesh laminations and

Fig. 10 is a fragmentary plan view of a modification.

In the preferred form of the invention the structure will be constructed in much the same manner as the conventional shade, i. e., of a size and shape to fit a window and in a manner to permit attachment to the conventional spring roller. This roller is indicated by reference letter A, the shade fabric by B and the binding at C. The shade fabric is of laminated form, being constructed from netting or other open mesh material and it is the arrangement of this netting in building the lamination that constitutes the essence of this development.

Referring to Figure 4, the first lamination is formed by the netting *b* in which the mesh may be of a size found desirable for the purpose. In Figure 5 the second lamination of netting is shown in place at *b'* the mesh being superimposed but relatively shifted so that the strands occupy a position substantially intersecting the strands of the first lamination at one-third their mesh width. Figure 6 shows the application of the third lamination, the strands *b''* of which in their superimposed position again reducing the mesh area of the original structure *b* by another third. There is thus provided a three-ply structure in which the open mesh strands of the individual plies are relatively staggered in a definitely proportioned manner to produce a laminated structure in which the individual mesh is reduced one-third.

The illustrated form embodies the use of three laminations, however, this number may be reduced or increased as occasion may require, and carry out the same inventive thought of staggering or overlapping the mesh to relatively reduce the openings of the fabric structure in direct proportion to the number of laminations.

In assembling the shade fabric B a thin separator strip *c*, see Fig. 7, may be used to space the marginal edges of the laminations. In the three-ply structure illustrated two of these separators *c* are necessarily utilized and after being positioned the marginal edges of the netting and the separator strips are inserted in the U-shaped binding strips C and secured therein by spaced rows of stitching as indicated. The formation of the binding and separator strips is best shown in Fig. 7.

To facilitate the operation of the shade on the spring roller A the lower edge includes a wooden insert D and because of this element the binding strip at the lower end is of greater width to provide a pocket between the same and the end of the shade structure. An eyelet *d* may be fixed

through this insert D to accommodate the pull cord *d'*.

In Fig. 10 a plurality of separator strips E of suitable fabric extend vertically, transversely or both ways in overlapping relation as shown to retain the laminations in spaced relation. The spacing of the laminations not only materially increases the circulation of air through the structure but also adds to its filtering qualities and thus more readily removes the impurities from the air.

What I claim as new and desire to secure by Letters Patent is:

A window shade structure for use on rollers comprising a fabric body formed of a plurality of superimposed open mesh fabrics, separator strips positioned along the marginal edges of the superimposed fabrics to retain the same in spaced relation for the admission of light, a binding enclosing the marginal edges of said superimposed fabrics and said separator strips, fastening means securing the binding to said fabric body and permanently positioning said separator strips, the binding element along the lower fabric body being spaced at its lower edge from the lower edge of the fabric body to provide a pocket for an insert, said open mesh fabrics being normally positioned by said binding with the strands forming the mesh of each lamination offset with relation to the strands of the adjacent lamination, whereby the mesh area of the fabric body is relatively reduced to form a retarding medium for the interception of particles conveyed by passing air currents.

FRANCIS EDGAR LESLEY.