

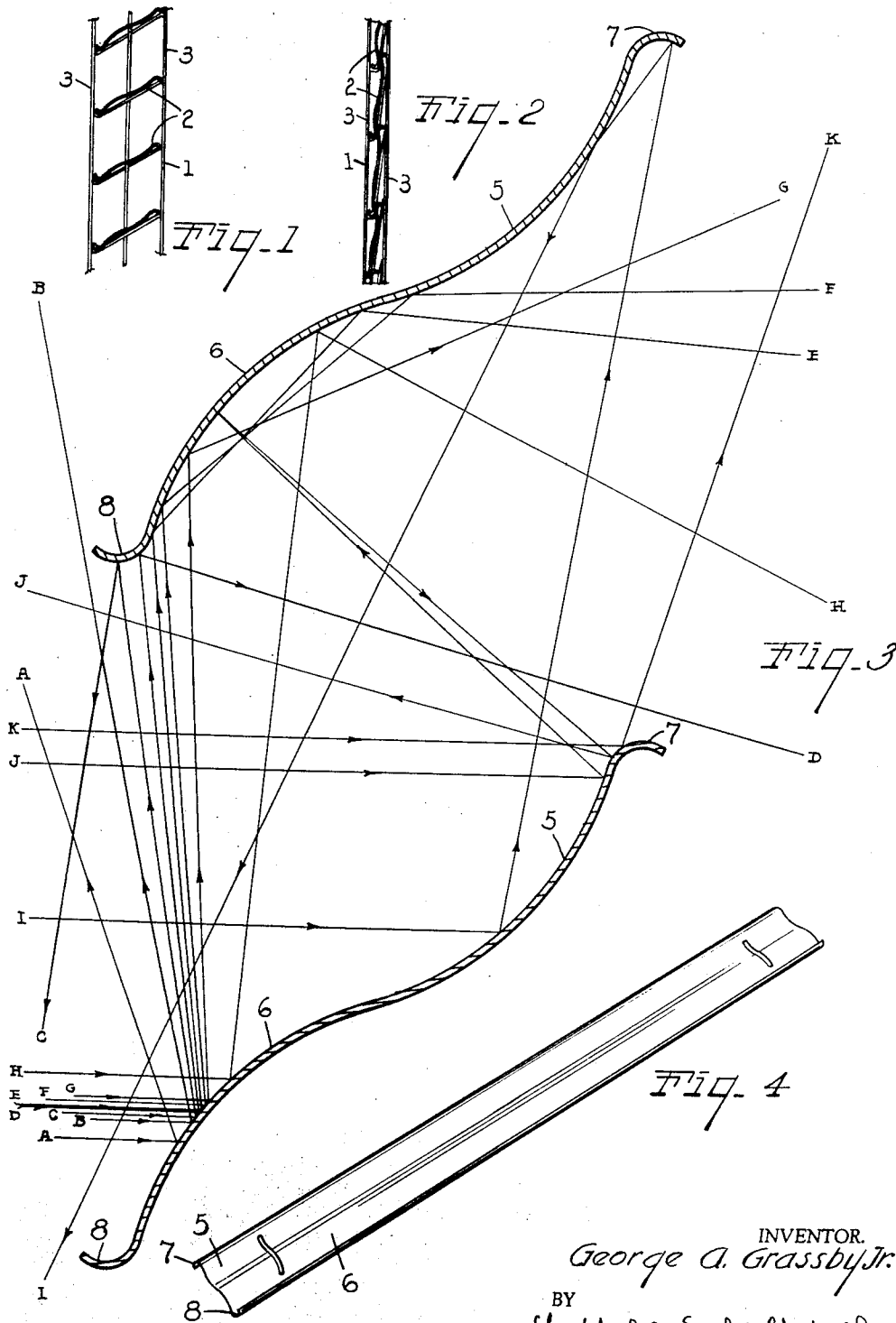
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G. A. GRASSBY, JR

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METAL SLAT FOR VENETIAN BLINDS

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INVENTOR.
George A. Grassby, Jr.
BY
Chappelle Earl & Chappelle
ATTORNEYS.

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METAL SLAT FOR VENETIAN BLINDS

George A. Gramby, Jr., Sturgis, Mich., assignor to
Kirsch Company, Sturgis, Mich.

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This invention relates to Venetian blinds and particularly to Venetian blinds having metallic slats. It has for its objects:

First, to produce a new and improved Venetian blind in which a sheet metal slat is employed.

Second, to provide such a blind having a specially formed slat which tends to keep a very large percentage of light and heat out of a building having my improved blind installed in the windows thereof.

Third, to provide such a blind having specially formed slats which diffuse the light passing through the blind into the room.

Fourth, to provide a new and improved all metal slat for use in Venetian blinds.

Other objects and advantages pertaining to details and economies of construction and operation will appear from the description to follow. A preferred embodiment of my invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a sectional view showing a portion of the Venetian blind made in accordance with my invention showing the slats in open position.

Fig. 2 is a view similar to Fig. 1 showing the slats in closed or light excluding position.

Fig. 3 is a diagrammatic view showing how my improved slats keep a large percentage of light and heat from the room and diffuse the light and heat passing through the blind.

Fig. 4 is a perspective view of one of my improved slats.

Referring to the drawing, 1 is a portion of a Venetian blind showing slats 2 supported in ladder tapes 3. In Fig. 2, the slats are shown in closed position and it will be noted that they overlap to exclude light. My improved slat is formed of sheet metal. An aluminum alloy is preferred, although any suitable material can be employed. The slat is formed by rolling or the like and has a body portion 4 which is of relatively flat S-shaped cross section formed of two curves 5 and 6. These curves are formed with a radius equal to about one-half the width of the blind. The edges of the slat are recurved at 7 and 8 on radii equal to about one-twenty-fourth of the width of the slat. The slats are preferably made of metal and may be finished in any desired color. I prefer to have the surface one which will serve to reflect light and heat because much more satisfactory results are obtained with such a surface.

The portions 7 and 8 of the edge of the slat, due to their formation, serve as reflecting surfaces, the one side being a concave reflector and the other side a convex one as will be apparent.

Similarly the curves in the body portion of the blind serve as concave and convex reflector surfaces respectively.

Viewing Figs. 1, 2 and 3, the outside of the window in which the blind is located is shown at the left and the inside or room side of the blind is shown at the right. The lines A, B, C, D, E, F, G, H, I, J, and K show light or heat rays entering from the outside. Under well recognized laws of reflection, the angle of reflection equals the angle of incidence and in the diagram of Fig. 3 the various light rays have been traced having regard to this physical law. It will be noticed, for instance, that the light rays A and B are directly reflected outside of the room, eliminating heat. The ray C is reflected from the surface 6 of a slat back to the concave portion of the edge 8 of the slat above and thence out of the room. The ray D is reflected similarly only from a different portion of the curved edge 8 and is directed downwardly in the room. The ray E is reflected from the lower slat to the lower portion of the curve 6 in the upper slat and is reflected downwardly at a different angle from D. Similarly F is reflected almost straight into the room and G is directed upwardly. H eventually is directed downwardly into the room. I is reflected from the upper convex surface of the lower slat to the downwardly directed concave reflecting surface of the portion 7 of the upper slat and thence out of the room and downwardly as shown. J, hitting the upwardly directed convex reflecting surface at the edge of the lower slat, is reflected to the portion 6 of the upper slat, thence back to the lower slat and out of the room. It will be apparent that a good percentage of the light and heat rays, which follow the same laws of reflection, never get inside of the room and that those that do are greatly diffused, producing the desired light and eliminating the concentration of heat in any particular place in the room.

The best results are obtained by arranging the slats as shown in Fig. 2 with the body portion so arranged that the convex upwardly directed curve is adjacent the outside of the window in which the blind hangs and the concave upwardly directed curve is adjacent the inside or the room side of the blind. It will be noted that the curved edges are arranged so that the concave-convex surface adjacent the outside has its concave side directed upwardly and its convex side directed downwardly, whereas on the room side the convex portion is directed upwardly and the concave portion downwardly.

This particular combination and arrangement of the blind slats in position is particularly effective for excluding light and when the blind is in closed or light excluding position the concave downwardly directed portion of the edge 8 of the upper slat fits into the lower slat, as shown in Fig. 2, effectively barring the passage of light or heat.

I have shown and described my invention in the embodiment preferred by me and wish to claim the same specifically and broadly as pointed out in the appended claims.

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

1. In a Venetian blind, the combination of a plurality of sheet metal slats having their body portions of relatively flat S-shaped transverse cross section, the curves thereof having radii of a length equal to about half the width of the slat, said slats having their edges recurved on relatively short radii equal to about one-twenty-fourth of the width of the slat to form concavo-convex reflecting surfaces, said slats being so disposed that they overlap in closed or light excluding position and in open position the body portion of each slat is so disposed that an upwardly facing convex portion of said body portion lies adjacent the outside of the window in which the blind is hung and an upwardly facing concave portion lies adjacent the inside of the window, and with the recurved edges so disposed that the one at the inside of said window forms an upwardly directed convex reflecting surface and a downwardly directed concave reflecting surface, and the edge at the outside of the window forms a concave upwardly directed reflecting surface and a downwardly directed convex reflecting surface.

2. In a Venetian blind, the combination of a plurality of sheet metal slats having their body portions of relatively flat S-shaped transverse cross section, said slats having their edges recurved on relatively short radii to form concavo-convex reflecting surfaces, said slats being so disposed that they overlap in closed or light excluding position and in open position the body portion of each slat is so disposed that an upwardly facing convex portion of said body portion lies adjacent the outside of the window in which the blind is hung and an upwardly facing concave portion lies adjacent the inside of the window, and with the recurved edges so disposed that the one at the inside of said window forms

an upwardly directed convex reflecting surface and a downwardly directed concave reflecting surface and the edge at the outside of the window forms a concave upwardly directed reflecting surface and a downwardly directed convex reflecting surface.

3. In a Venetian blind, the combination of a plurality of slats having their body portions of relatively flat S-shaped transverse cross section, said slats having their edges recurved on relatively short radii to form concavo-convex reflecting surfaces, said slats being so disposed that they overlap in closed or light excluding position and in open position the body portion of each slat is so disposed that an upwardly facing convex portion of said body portion lies adjacent the outside of the window in which the blind is hung and an upwardly facing concave portion lies adjacent the inside of the window, and with the recurved edges so disposed that the one at the inside of said window forms an upwardly directed convex reflecting surface and a downwardly directed concave reflecting surface and the edge at the outside of the window forms a concave upwardly directed reflecting surface and a downwardly directed convex reflecting surface.

4. A sheet metal slat for a Venetian blind, having a body portion of relatively flat S-shaped cross section, the curves thereof having radii of a length equal to about half the width of the slat, said slats having their edges recurved on relatively short radii equal to about one-twenty-fourth of the width of the slat to form concavo-convex reflecting surfaces.

5. A sheet metal slat for a Venetian blind, having a body portion of relatively flat S-shaped cross section, said slats having their edges recurved on relatively short radii to form concavo-convex reflecting surfaces.

6. A slat for a Venetian blind, having a body portion of relatively flat S-shaped cross section, said slats having their edges recurved on relatively short radii to form concavo-convex reflecting surfaces.

7. A sheet metal slat for a Venetian blind having a transverse S-shaped cross section formed of relatively flat curves, the edges of the slat being recurved on open curves of relatively shorter radii.

8. A slat for a Venetian blind having a transverse S-shaped cross section formed of relatively flat curves, the edges of the slat being recurved on open curves of relatively shorter radii.

GEORGE A. GRASSBY, JR.