

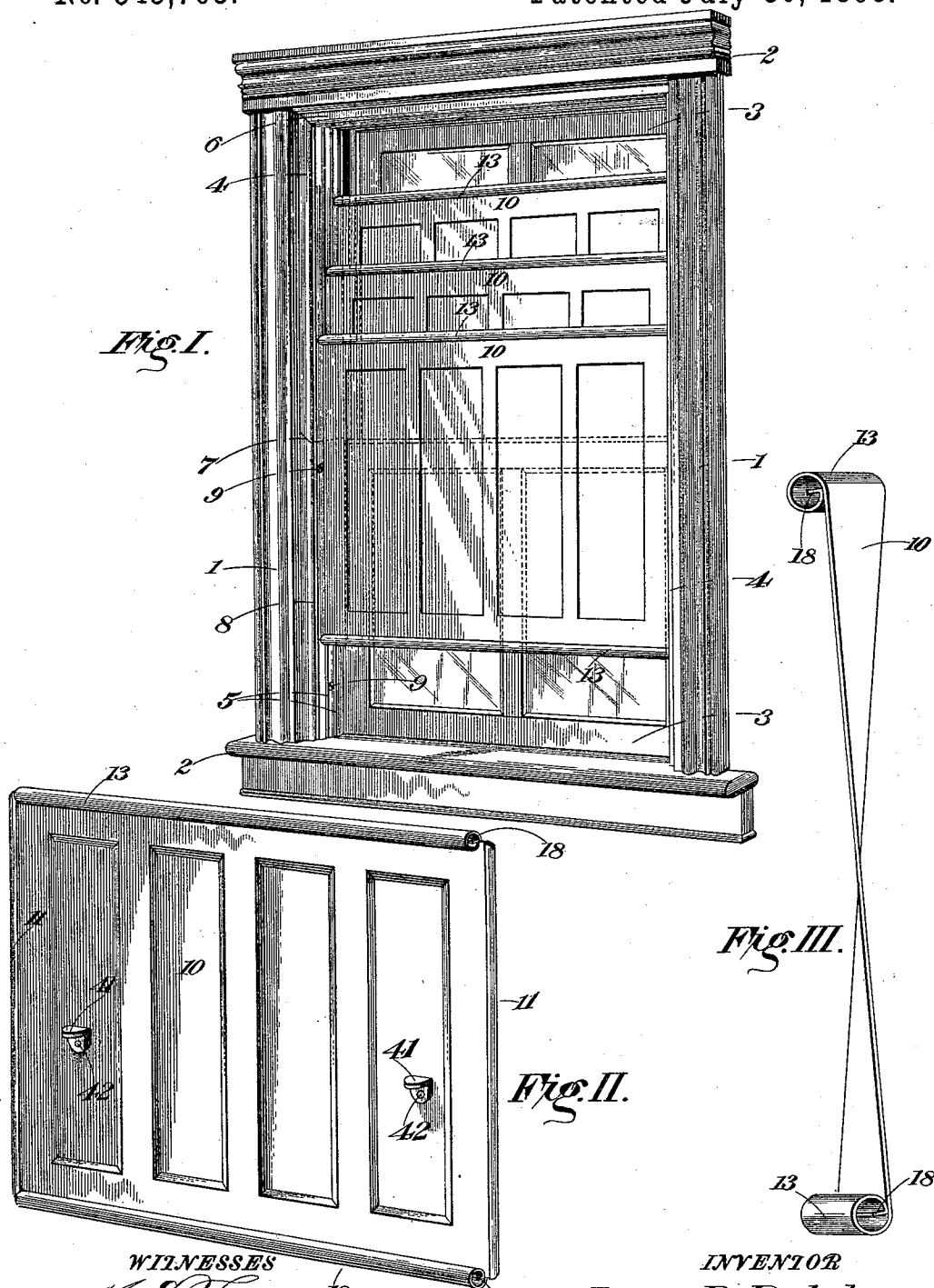
(No Model.)

2 Sheets—Sheet 1.

J. R. BALSLEY.
WINDOW SHADE.

No. 543,763.

Patented July 30, 1895.



WITNESSES

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L. M. Macker

INVENTOR

James R. Balsley
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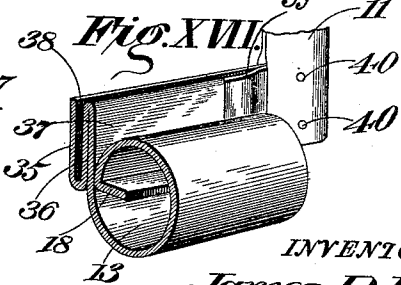
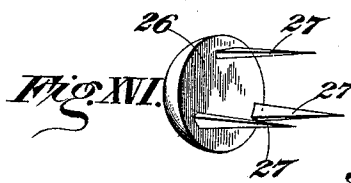
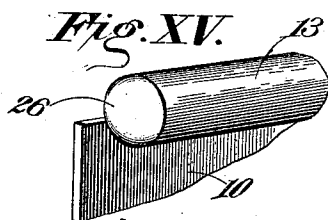
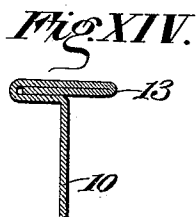
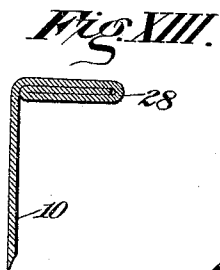
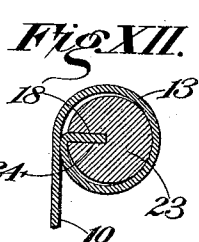
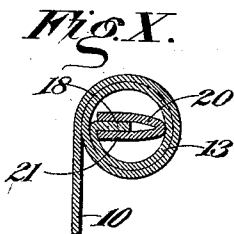
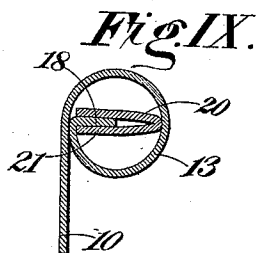
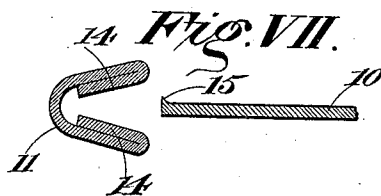
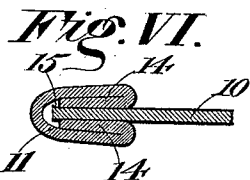
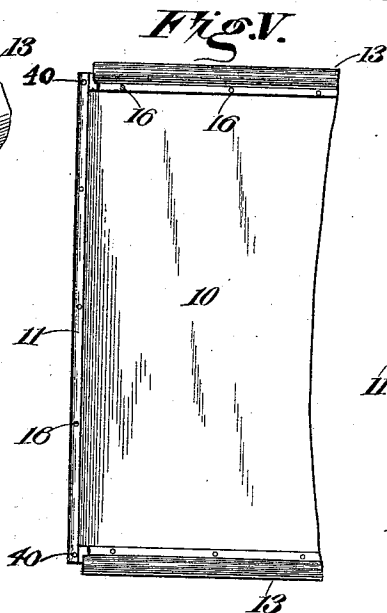
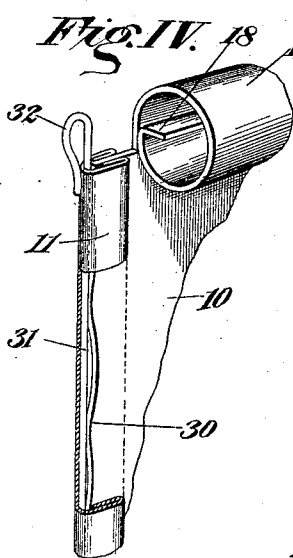
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J. R. BALSLEY.
WINDOW SHADE.

2 Sheets—Sheet 2.

No. 543,763.

Patented July 30, 1895.



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UNITED STATES PATENT OFFICE.

JAMES R. BALSLEY, OF CONNELLSVILLE, PENNSYLVANIA.

WINDOW-SHADE.

SPECIFICATION forming part of Letters Patent No. 543,763, dated July 30, 1895.

Application filed February 25, 1895. Serial No. 539,616. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. BALSLEY, of Connellsville, county of Fayette, State of Pennsylvania, have invented certain new and useful Improvements in Window-Shades, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce such improvements in window-shades as will materially diminish the cost of construction, will increase their durability, and will render them adaptable to comparatively narrow window-jambs.

My window-shades are also especially designed to be constructed of non-inflammable material, so as to afford protection against fire. They may also, when constructed of metal, afford at the same time protection against house-breaking.

In the accompanying drawings, Figure I is a perspective view of a window-frame, showing by way of example three of my shades in place. Fig. II is a view of one pattern of shade detached. Fig. III is an end view thereof, illustrating the buckle of the material, that in practice affords one means of securing them in any position to the frame to which they are set. Fig. IV illustrates a portion of one edge of a shade, partly in section, provided with end-thrust springs for assisting the buckle in fixing the adjustment of the shade to its frame. Fig. V is a side elevation of a part of a modified form of shade, in which the body part is made of different material from its frame. Fig. VI is a section of one edge of a shade, showing one form of finishing the same. Fig. VII shows the same with the parts separated and in juxtaposition previous to their being united. Fig. VIII shows a modified form of edge, in which the edge is made integral with the body of the shade by infolding of the material of which it is composed. Fig. IX illustrates in section one form of bead. Fig. X is a similar view showing another form of bead, Fig. XI showing a form of bead in which the diametrical strengthening rib is made integral with the material of which the shade is composed. Fig. XII illustrates within the bead a cylindrical strengthening-piece. Fig. XIII illustrates a flat flange-bead. Fig. XIV illustrates

a flat T-shaped bead. Fig. XV illustrates one method of finishing the end of the bead. Fig. XVI illustrates the end piece that forms the finish of the end of the bead detached. Fig. XVII illustrates in detail the method of attaching a bead to the frame—as, for example, in the construction illustrated in Fig. V.

Referring to the figures on the drawings, 1 indicates the jambs, and 2 the upper and lower cross-pieces of a window-frame. 3 indicates the sash movable within the frame. These parts may be of any usual and ordinary construction.

4 indicates track-pieces provided with grooves 5 within which the shades move, the track-pieces being fitted neatly within the jambs and of a width sufficient to accommodate the shades employed. They may be finished by being mitered to a shade cross-piece 6 at the upper ends; but the bottom of the window-frame is preferably left clear and unobstructed. One of the track-pieces is preferably divided with a miter-joint 7, located just above the top rail of the lower sash. By this means the lower section 8 of the track may be made conveniently removable, for which purpose it may be fastened in place by screws 9, the remaining portion of the track being permanently secured in place. By this provision any of the shades or sections of the window-sash may be removed at any time without difficulty and simply by the removal of the sections 8 of one track-piece.

It will be readily understood by one skilled in the art that it is necessary to make only one section of one track-piece removable for the purpose specified.

The grooves 5 are arranged opposite each other in each of the track-pieces and are of a sufficient number of opposite pairs to accommodate the required number of shades. In the illustration three shades are shown, but any number preferred may be employed.

10 indicates the body or panel of the shade, which consists of any suitable (preferably non-inflammable) material. For this purpose I prefer to make it of sheet metal, which may be ornamented by stamping, painting, or enameling, for example, to give it any preferred attractive appearance, or its surface may be ornamented by lithographs printed

on paper, for example, and secured by some adhesive material to the surface of the shade proper. The varieties of ornamentations which may be employed are practically unlimited.

Instead of making the panel of my shade of sheet metal, it may be made of other material and constructed as illustrated in Fig. V of the drawings, for example. For some purposes ordinary cardboard or stiff, thick paper may be employed, or instead thereof sheets of asbestos, which, being non-inflammable, might in some instances be preferred.

The panel is preferably provided with suitable edge strips 11, which are designed to adapt it to move readily within its grooves 5, and also with upper and lower beads 13, designed to give stiffness and finish to the panel and at the same time, if desired, to afford means for grasping it for raising and lowering the shade. The edge strips may be made in a variety of ways. I prefer to form them of a separate strip having infolded edges 14, V-shaped, as illustrated in Figs. VI and VII of the drawings, and which is adapted to straddle the raw edge of the panel. When the panel is made of metal the shear forms in the edge of the metal a slight bend 15. This, when the strip is set upon the edge of the panel and folded down or crimped against it by engaging one of the infolded edges 14 of the strip, suffices to hold the strip in place upon the panel.

To prevent separating of the strip the ends thereof may be secured by solder or other suitable means, or especially where metal is not employed to form the panel 10 rivets or punched depressions 16, as shown in Fig. V of the drawings, may be employed.

When the panel 10 is made of metal, it is entirely practicable to form the edge integral with the body of the panel by infolding, as illustrated in Fig. VIII of the drawings, in which construction the panel may be brought in line with the middle of the edge, as by a bend or groove 17. (See Fig. VIII.)

The "bead," as it is called, may be made, when the panel is formed of metal, by curling the ends of the panel to form a cylindrical finish, at the same time preferably leaving a radial flange 18 within the bead proper. The bead may be formed by a single curl of the metal, as illustrated in Fig. IX of the drawings, or, for the sake of additional strength, by a double curl, as illustrated in Fig. X of the drawings.

In Fig. XI of the drawings the flange 18 affords in itself a means of strengthening the bead, but I prefer to provide it with an additional stiffener, passing longitudinally through the interior of the bead. This stiffener may be formed by infolding the edges, as indicated at 19 in Fig. XI of the drawings, previous to curling of the bead, or a stiffener might be made of a separate U-shaped strip 20, (see Figs. IX and X of the drawings,) which may be slipped longitudinally into the

bead, so that its edges 21 inclose and engage the radial flange. Instead, however, of employing a flat strip, as of metal, I may employ a cylindrical strip 23, (see Fig. XII,) having a radial longitudinal groove 24 therein. This cylindrical strip may be made of metal or wood or any suitable material. Where a cylindrical bead of the kind described is employed, I prefer to provide a terminal finishing-piece. For example, I may close the end of the bead as with a cap of solder 26, (see Fig. XV,) or I may employ a large round-headed tack, which preferably, however, is of special construction, as illustrated in Fig. XVI of the drawings, and is provided with a plurality of tangs 27 to secure it centrally within the bore of the cylindrical bead, either by contact with the sides thereof, by being driven into the material of which the stiffener is composed—as, for example, when a wood stiffener is employed—or between the folds of the metal, as when a U-shaped strip of metal is employed for the stiffener.

I prefer, as suggested, to employ a round-headed finishing-piece, not only for the sake of appearances, but because that form of finishing-piece produces the least friction against the sides of the track-pieces and is least likely to deface them. Where a round-headed tack is employed for the finishing-piece, the contact of its head with the sides of the track-pieces serves to prevent its accidental dislodgment when the shade is in place.

I do not limit myself to the employment of a cylindrical bead, but may substitute therefor the infolded flange-bead 28 shown in Fig. XIII of the drawings, or the modified T shape form thereof shown in Fig. XIV of the drawings.

In the construction of the bead, as shown in Figs. VIII to XIV, inclusive, the material of which the bead is composed in each instance is, with respect to its marginal portion, or that portion adjacent to its edge, infolded against and protected by the sheet of the material itself.

Where stiff material is cut into large sheets for use there is always present in it what is technically known as a "buckle" or a "twist." (Clearly illustrated in Fig. III of the drawings.) If the material be metal this buckle is permanent in its tendency and affords lateral resilient force, which opposes the flattening of the sheet. I avail myself of the buckle in the sheet and make it a special feature of my shade; also by the employment of the edge strips and beads I accentuate and intensify the lateral resilient force afforded by the buckle or twist of the material.

I take advantage of the buckle or twist of the material by securing the panel of the shade within opposite parallel grooves 5, thereby holding the edges of the panel in the same plane. The buckle or twist therefore exerts a constant force-producing pressure against the sides of the grooves. This pressure suffices under ordinary conditions to pre-

vent the movement of the shade within the grooves under the weight of the shade itself, but yields readily to power applied for purposely raising or lowering the shade. If the weight of the shade should be sufficient to require it, an additional retentive tendency may be gained by forming slight bends 30 in the edges of the shade-panel, as illustrated in Fig. IV, and also, as illustrated in the same figure, by providing for the infolded edges a wire or strip 31 of resilient material—as, for example, steel—extending the ends thereof beyond the edges of the panel and bending them back upon themselves to form spring-loops 32, which work in the bottom of the grooves 5 and produce a resilient end-thrust from the panel against the bottoms of the grooves. The presence of the steel wire in the edges also serves to preserve the bends 30, if they are employed, in the edge of the panel.

In the construction shown in Fig. V of the drawings the material of the body of the shade does not afford sufficient strength to carry the beads and the edges in the same manner as it does when made of metal; but it is necessary to modify the construction of the shade somewhat, so as to provide a kind of frame as a support for the body of the shade. For this purpose I produce in any manner, as above suggested, a bead and provide upon it a flap 35. This may be bent down, as indicated at 36, and bent also, as indicated at 37, to produce a pocket 38 for the reception of the panel. (See Fig. XVII.) The strip 39, formed by the folding of the flap of the bead, extends beyond the end of the bead so as to meet and engage with the edge strips 11, to which they are secured by suitable means—as, for example, solder or rivets 40—illustrated. As above suggested, the beads afford suitable means for raising and lowering the shades, but, if preferred, special bracket-pieces 41 for that purpose may be secured, as by rivets 42, to the panel. (Shown in Fig. II.)

What I claim is—

1. The combination with grooved track pieces, of a shade movable therein, and a transverse twist or buckle in the shade, substantially as set forth.

2. A window shade composed of sheet material having a slight bend 15 on the edges thereof, and an edge strip infolded on the edge thereof to engage the bend 15, substantially as set forth.

3. A shade composed of sheet material and

having infolded edgestrips thereon, and bends in the edge strips for retaining the shade within the grooves of a track, substantially as set forth.

4. A window shade composed of sheet material, infolded edge strips thereon, a strip of resilient material infolded within the edge strips, and retentive bends in the edge strips, substantially as set forth.

5. A window shade composed of sheet material having infolded edge strips thereon, a strip of resilient material infolded therein, and having its ends projecting and turned back to form retentive bends for the edge strips, substantially as set forth.

6. A window shade provided with a curled metallic bead, and an interior radial flange, substantially as set forth.

7. A window shade provided with a curled bead, an interior radial flange, and a stiffener secured to the flange, substantially as set forth.

8. A window shade provided with a curled metallic bead, an interior radial flange, and a stiffener passing longitudinally through the interior of the bead and engaging with the flange, substantially as set forth.

9. A shade provided with a curled metallic bead, an interior radial flange, and a grooved stiffener extending through the bead, and receiving the flange thereof within its groove, substantially as set forth.

10. A window shade provided with a cylindrical metallic bead, and a round headed finishing piece protecting the end of the bead, substantially as set forth.

11. A window shade provided with a cylindrical metallic bead, a round headed finishing piece, and a plurality of tangs thereon adapted to secure the finishing piece to the end of the bead, substantially as set forth.

12. A window shade composed of sheet material provided with edge strips and beads secured together at right angles, substantially as set forth.

13. A window shade having a body part of sheet material, edge strips and beads secured together, and supporting, as in a frame, the body part, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

JAMES R. BALSLEY.

Witnesses:

JOS. H. BLACKWOOD,
JOSEPH L. ATKINS.