

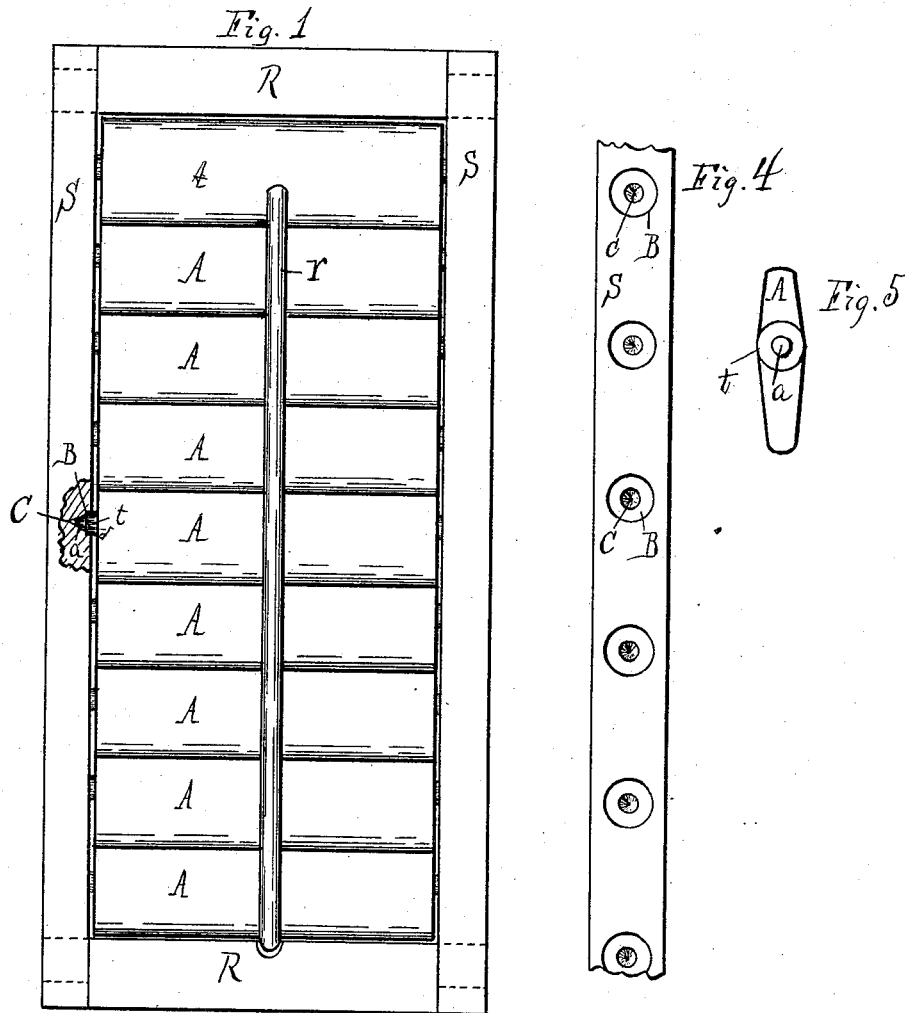
(No Model.)

2 Sheets—Sheet 1.

S. PALMER.
WINDOW BLIND.

No. 343,724.

Patented June 15, 1886.



WITNESSES

Geo. A. Darby
W. H. Hollister

INVENTOR

Stephen Palmer
by Geo. A. Mosher
att'y

(No Model.)

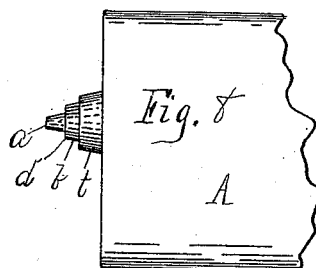
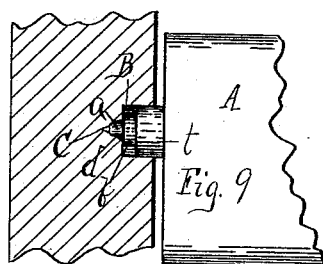
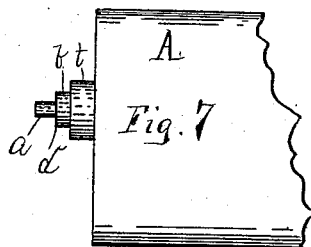
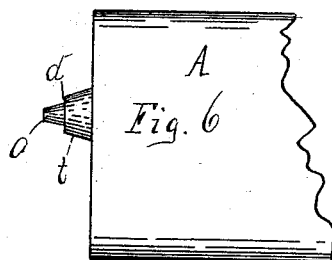
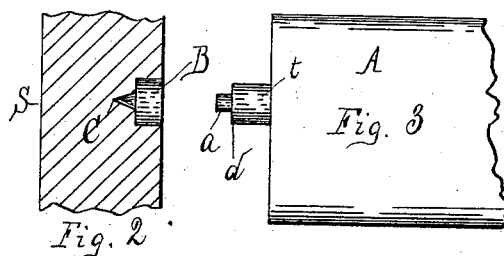
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Geo. A. Garby
W. H. Hallister

INVENTOR

Stephen Palmer
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UNITED STATES PATENT OFFICE.

STEPHEN PALMER, OF LANSINGBURG, NEW YORK.

WINDOW-BLIND.

SPECIFICATION forming part of Letters Patent No. 343,724, dated June 15, 1886.

Application filed March 5, 1886. Serial No. 194,104. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN PALMER, a resident of Lansingburg, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Window-Blinds; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in window-blinds having adjustable slats, and the objects of the invention are fully stated in connection with the following description.

My invention consists of the novel construction and combination of parts described in the specification, and pointed out in the claims.

Figure 1 of the drawings is a front elevation of a window-blind with a portion of one stile broken away to show a slat-dowel seated in its socket. Fig. 2 is a central vertical section of a portion of one of the stiles, showing the dowel-seat. Fig. 3 is a side view of one end of a slat, showing one form of slat-dowel. Fig. 4 is a plan view of a dowel-socket and a portion of one of the stiles. Fig. 5 is an end view of slat shown in Fig. 3. Figs. 6, 7, and 8 are side views of one end of a slat, showing modified forms of slat-dowels. Fig. 9 is a sectional view showing a slat-dowel seated in its socket in the stile.

My present invention is an improvement upon the invention described and claimed in my application for Letters Patent filed in the United States Patent Office December 31, 1885, No. 187,265, for improvements in Window-Blind Slats, and my declarations therein contained in reference to the state of the art and objects to be attained will apply with equal force to my present invention.

The difficulties to be overcome are the varying degrees of friction between the ends of the slat-dowels and the stiles, caused by defective parallelism of the stiles, wear in use, accumulation of paint upon the ends of the dowels, and varying degrees of resistance afforded by

different portions of the materials employed in construction.

The frames of window-blinds are composed of stiles S and rails R, secured together by mortise and tenon. The stiles are provided with sockets B, oppositely located at suitable intervals, and adapted to form seats for the slat-dowels *t*, rotary therein, and serving as pivots for the slats A, one on each end of each slat. The sockets B are customarily formed by a bit having a central feed screw, which makes the central aperture, C, in the bottom of the socket. This aperture is in the form of a hollow cone, and its walls are softened and torn by the withdrawal of the screw. The slat A is provided with a dowel, *t*, upon each end adapted to enter and loosely fit the socket B. The dowels are provided with projections *a*, centrally projecting from the ends of the dowels, and adapted to enter and be seated in the central apertures, C, and form pivots for the slats to turn upon.

The mortises and tenons of the stiles and rails are indicated by dotted lines in Fig. 1, and after the slat-dowels are inserted in their sockets the stiles are drawn tightly to place upon the rails, which forces the pivots *a* into the apertures C, as shown in Figs. 1 and 9, and the slats having been connected by adjusting-rod *r*, and the parts of the frame secured in place, the blind is wholly formed. As the pivot *a*, the projecting end of which is of about the same diameter as the mouth of aperture C, enters the contracted portion of the aperture, the walls of the latter are forced into close contact with the pivot, and the impinging surfaces are rendered very firm and rigid by the compression, whereby a better bearing-surface is afforded for the pivot. The friction between the compressed parts is sufficient to prevent the slats from being rotated by the wind, to produce an unpleasant rattling noise, and wear out the parts, and the diameter of the pivot being very small the friction is easily overcome by the hand of the operator when it is desired to adjust or readjust the position of the slats through the adjusting-rod. The distance that the pivots may be forced into the central apertures, C, can be varied considerably, without materially changing the frictional resistance offered to their

rotation. This is a very important feature, as the stiles, if parallel with each other in the first instance, frequently change relatively and lose their parallelism.

5 In the forms of construction heretofore employed, if the stiles should warp and spring apart the dowels would be loose in their sockets and rattle, while if they happened to spring toward each other the ends of the dowels
10 would come in contact with the stiles at surfaces upon their largest diameter, and the frictional resistance frequently became so great as to render it impossible to rotate them by means of the adjusting-rod *r*, while in my improved
15 device the variation of the stiles is rarely if ever sufficient to withdraw the pivots from contact with their bearings in apertures C so that they can rattle, or force them so tightly into the apertures C that they cannot be readily operated by the adjusting-rod.

20 It might sometimes happen that the material of which the stiles are made would vary in quality, the walls of aperture C yielding more freely in one stile than in the other, and I make use of the shoulder *d*, formed by the different diameters of the dowel *t* and pivot
25 *a* upon one end of the slat, to force the pivot on the other end of the slat into the aperture having the less yielding walls, as the distance
30 to which either pivot can enter its appropriate aperture is limited by contact of shoulder *d* with the bottom of socket B; but the resistance to entrance of the pivot into its aperture will never be so great at either end as to cause
35 inconvenient or injurious friction between the socket-bottom and the shoulder *d* at the other end. The end of the dowel may be cut down to form the shoulder *d* upon a smaller diameter, *b*, as shown in Figs. 7, 8, and 9, whereby
40 still less frictional resistance between the shoulders and socket-bottom will be offered to

the operation of the adjusting-rod, and especially when paint enters the sockets and reaches the ends of the dowels.

In the forms of construction heretofore employed, when the dowels come in contact at the surfaces of their largest diameters, a little paint would soon cement the contact-surfaces together, and the leverage of resistance being considerable it became impossible to separate the parts and rotate the slats by the adjusting-rod; but my improved device not only reduces the diameter of the contact-surfaces, but removes them a considerable distance at all points from the side walls of the socket B, so that considerable paint might enter without reaching the contact surfaces.

As I employ the saws which form the ordinary slat dowels to cut down the ordinary dowels to produce the projections *a* and *b*, I prefer to make the parts *a*, *b*, and *t* cylindrical in form; but they may be made in the forms of frustums of cones, as shown in Figs. 6 and 8.

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

1. A blind-slat dowel on which are formed pivotal end projections, *a* *b*, differing from each other and from the dowel *t* in diameter and separated from each other by a shoulder, *d*, substantially as shown and described.

2. Window-blinds having slat-pivots *a*, separated from the body *t* of the dowel by a shoulder, *d*, in combination with stiles having the socket B, and central conical aperture, C, substantially as shown and described.

In testimony whereof I have hereunto set my hand this 2d day of March, 1886.

STEPHEN PALMER.

Witnesses:

GEO. A. MOSHER,

W. H. HOLLISTER, Jr.