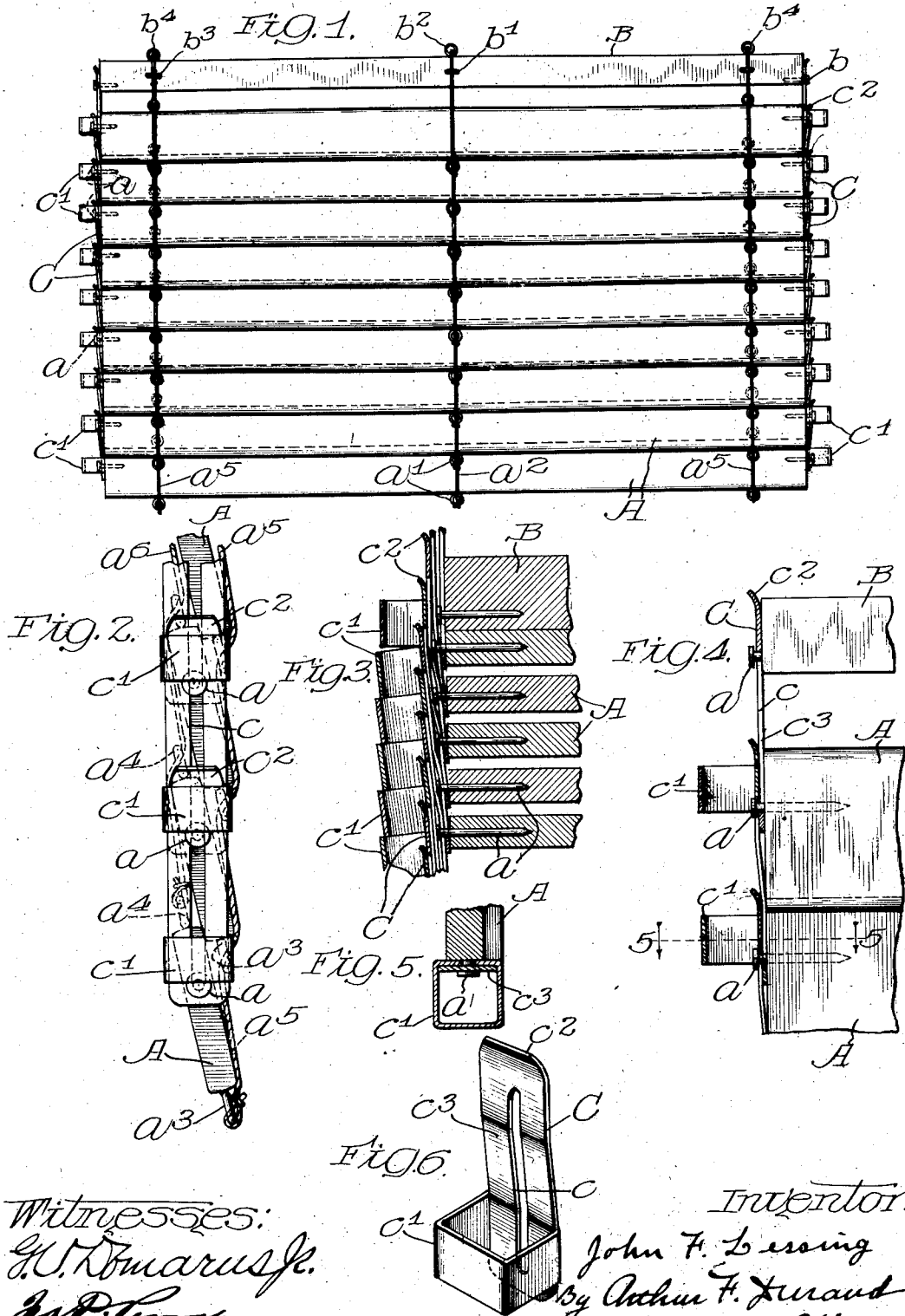


J. F. LESSING.
FOLDING BLIND.
APPLICATION FILED AUG. 24, 1911.

1,037,938.

Patented Sept. 10, 1912.



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JOHN F. LESSING, OF ST. JOSEPH, MICHIGAN.

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Specification of Letters Patent.

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Application filed August 24, 1911. Serial No. 645,888.

To all whom it may concern:

Be it known that I, JOHN F. LESSING, a citizen of the United States of America, and resident of St. Joseph, Berrien county, Michigan, have invented a certain new and useful Improvement in Folding Blinds, of which the following is a specification.

My invention relates to blinds of the kind in which a number of slats are flexibly connected together, to form a curtain, and in which means are provided, such as cords, for tilting the slats to form a series of openings between them, as well as for drawing the slats close together to raise the blind, a curtain or window shade of this character being ordinarily known as a Venetian blind.

The object of my invention is to provide improved means for connecting together the ends of the slats to keep them in proper relation to each other, and to insure the proper operation thereof when the blind is opened and closed, or raised and lowered, as will hereinafter more fully appear.

In the accompanying drawings—Figure 1 is a front elevation of a Venetian blind embodying the principles of my invention. Fig. 2 is a side elevation or edge view of a portion of said blind, on an enlarged scale, showing the links by which the slats are connected together. Fig. 3 is a vertical sectional view, in the plane of the blind, of one side portion thereof. Fig. 4 is a similar view showing the slats separated and tilted to overlap. Fig. 5 is a detail section on line 5—5 in Fig. 4. Fig. 6 is a perspective of one of the links by which the slats are connected together.

As thus illustrated, my invention comprises a suitable number of slats A of wood or other material. The opposite ends of each slat are provided with pivots a , which may be ordinary flat headed nails driven into the ends of the wooden slats, and which are nearer the upper edges of the slats than the lower edges thereof. The bar B is adapted to be supported in any suitable manner, and has its ends provided with similar nails b . Each slat is provided at its lower edge with a screw eye a' , and these eyes are connected together by a cord a^2 , which latter is threaded through screw eyes b' and b^2 on the bar B and hangs down at the inner side of the blind. The lower edges of the slats A are also provided, at each side of the blind, with screw eyes a^3 , and

opposite these the said slats have their upper edges provided with screw eyes a^4 . Outside cords a^5 extend downward through the screw eyes a^3 and are fastened to the last ones on the lower edge of the lowermost slat. Inside cords a^6 extend downward through the screw eyes a^4 and are fastened to the last ones on the upper edges of the said lowermost slat. The cords a^5 run through screw eyes b^3 and b^4 on the bar B and hang down outside of the blind. The cords a^6 run through screw eyes (not shown) on the bar B and hang down inside of the blind. By the cord a^2 the slats can be tilted to provide a series of wide openings between them, or to close the said openings in the well known manner of Venetian blinds. By the cords a^5 and a^6 the slats can be drawn upward and thus packed closely and solidly together, to raise the blind.

The links C are employed for connecting together the ends of the slats. Each link has a slot c that engages the pivots on two of the slats, and a rectangular loop c' at the lower end thereof. The upper end c^2 of each link is bent outward, and the middle portion c^2 of each link has a bend, whereby the upper end of each link is in a plane outside of the vertical plane of the lower end thereof. The loops c' extend outwardly, and each loop is adapted to receive the upper ends of several links below, when the blind is raised. When the blind is lowered, then each loop only contains the upper end of the next lower link; and at this time the blind as a whole is slightly flexible, as the links are capable of slight lateral deflection. This flexibility, however, decreases as the slats are drawn together, as at such time each link is embraced by a plurality of said loops. Thus these loops guide the overlapping links, and in one sense the links telescope, when the blind is raised, to permit the slats to come close together. The upper ends of the uppermost links engage the nails b , whereby the series of overlapping links support the blinds. In this way the cords a^2 , a^5 and a^6 do not support the blind, but are simply used for manipulating the slats thereof—that is to say, do not support the blind when lowered. When raised, then the weight of the blind is sustained by the cords a^5 and a^6 .

By thus connecting the slats at the ends thereof, the operation of the blind is much

more certain, as the slats are held at all times in proper relation to each other, and the blind is, therefore, much more satisfactory in use. By having the pivots a nearer the upper edges than the lower edges of the slats, the said slats gravitate to upright position when the cord a^2 is released, thus causing the slats to overlap and close the blind. As their upper ends are out-turned, the links slide upward over the pivots without catching. Also, the blind can be raised only partially, if such is desired.

What I claim as my invention is:

1. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, and means for drawing the slats close together, said links being arranged to overlap.

2. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, and means for drawing the slats close together, said links being arranged to overlap, and one or more of said links being provided with guides, each guide adapted to receive the upper ends of the plurality of said links when the slats are drawn together.

3. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, means for drawing the slats close together, said links being arranged to overlap, and the said pivots being nearer the upper edges of said slats than the lower edges thereof, whereby said slats rotate by gravity on the lower ends of the links, to close the spaces between the slats.

4. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, means for drawing the slats close together, said links being arranged to overlap, and the slots of said links being of such length that the links overlap more than two deep when the slats are drawn together.

5. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, means for drawing the slats close together, said links being arranged to overlap, and each link being provided with means for holding the links in alinement when the slats are drawn together.

6. In a Venetian blind, a series of slats having their ends provided with pivots,

slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, means for drawing the slats close together, said links being arranged to overlap, and a plurality of said links being each provided at its lower end with a rectangular loop for receiving the upper ends of a plurality of links, which loops permit the series of links to contract endwise, but hold the same against lateral movement.

7. In a Venetian blind, a series of slats having their ends provided with pivots, slotted links engaging said pivots to connect the said slats, means for tilting the slats about their pivots, means for drawing the slats close together, said links being arranged to overlap, each link engaging two of said pivots, and the upper end of each link being out-turned to slide upward over the links above.

8. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, and means for rotating the slats, said slats overlapping at their edges when the blind is down and fully closed.

9. The improved Venetian blind, substantially as shown and described, comprising slats pivoted at their ends, whereby each slat is rotatable about a horizontal and longitudinal axis, said slats overlapping at their edges when the blind is down and fully closed.

10. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links which overlap each other.

11. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising slotted links, and pivots movable in said slots.

12. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links, and each slat being pivoted at each end in only a single link, whereby each slat is capable of rotation about a longitudinal axis to open and close the blind.

13. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links upon which the ends of the slats are pivoted, whereby each slat is capable of rotation about a longitudinal axis to open and close the blind.

14. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links which telescope with each other when the blind is raised.

15. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism compris-

ing links which interlock to stiffen the blind as a whole.

16. A Venetian blind having the overlapping slats thereof connected together at their ends by a link mechanism, and cords between the ends of the slats for raising and lowering the blind, and for rotating the slats thereof to open and close the blind, said mechanism preventing separation of said slats beyond the distance necessary to maintain the overlapping relation thereof.

17. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links, and each slat being pivoted at each end in only a single link, said slats overlapping at their edges when the blind is down and closed, and said mechanism preventing separation of said slats beyond

the distance necessary to maintain the overlapping relation thereof.

18. A Venetian blind having the slats thereof connected together at their ends by a link mechanism, said mechanism comprising links upon which the ends of the slats are pivoted, said slats overlapping at their edges when the blind is down and closed, and said mechanism preventing separation of said slats beyond the distance necessary to maintain the overlapping relation thereof.

Signed by me at Chicago, Illinois, this 16th day of August, 1911.

JOHN F. LESSING.

Witnesses:

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S. LEWIS.