

(No Model.)

C. CEDERBERG.
VENETIAN BLIND.

2 Sheets—Sheet 1.

No. 572,927.

Patented Dec. 8, 1896.

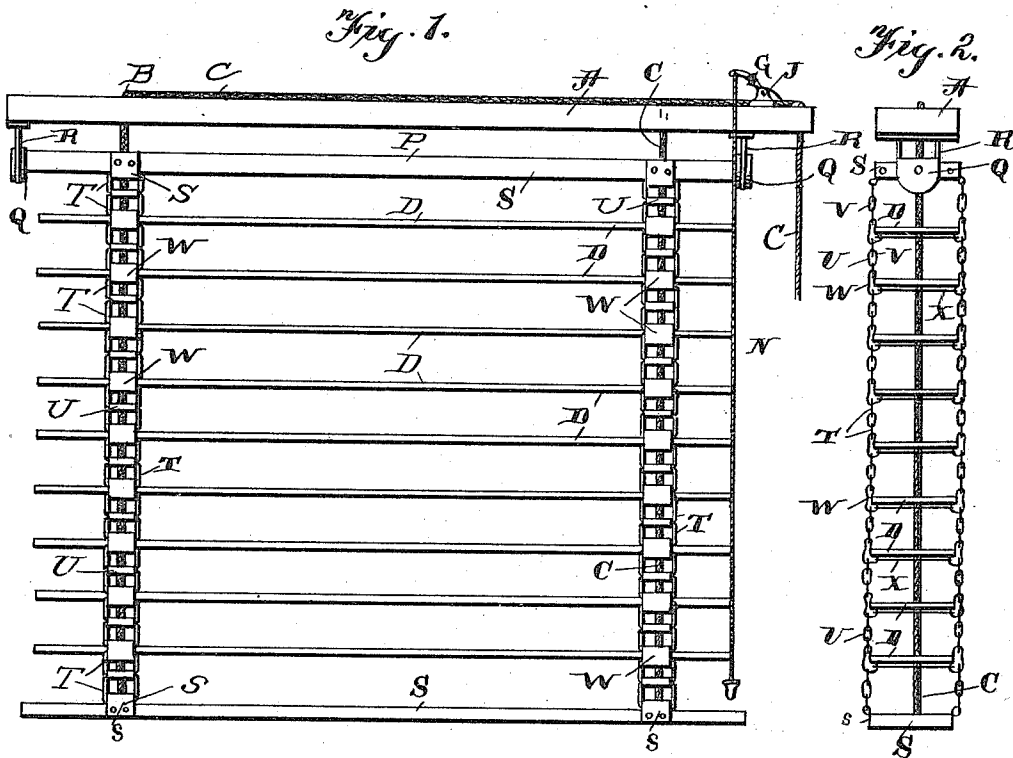
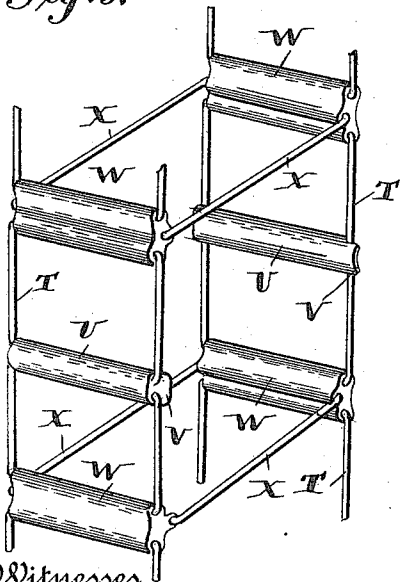


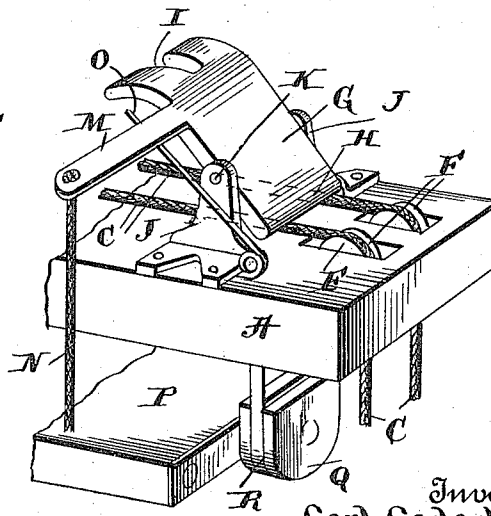
Fig. 3.



Witnesses

Geo. E. Trech.
Walter Donaldson

Fig. 4.



Inventor
Carl Cederberg.

by Richards
Attorneys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

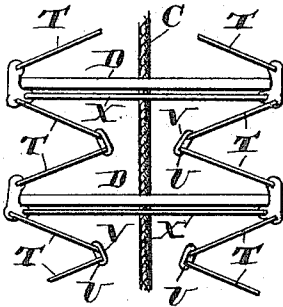


Fig. 5.

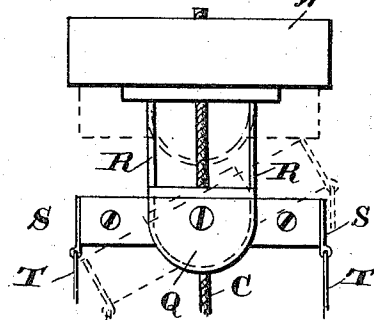


Fig. 9.

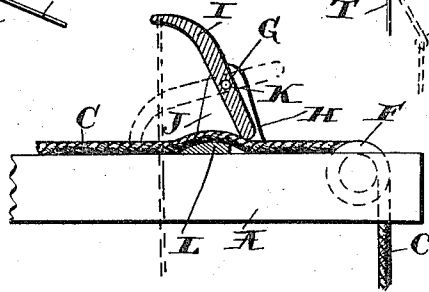


Fig. 1.

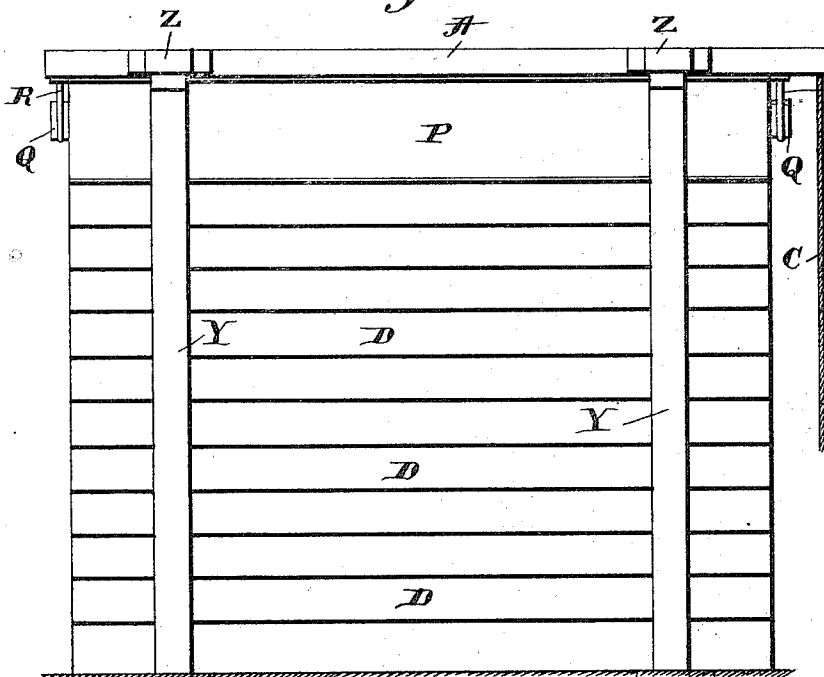
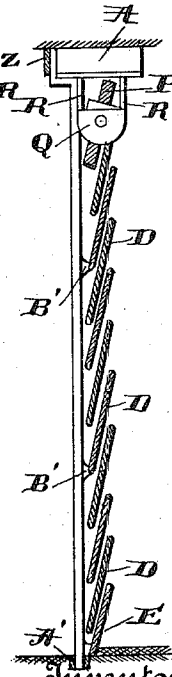


Fig. 8.



Witnesses A'
Geo. C. Frech,
Walter D. Maltby,

Inventor
Carl Cederberg.
by Richard J.
Attorneys

UNITED STATES PATENT OFFICE.

CARL CEDERBERG, OF SYDNEY, NEW SOUTH WALES, ASSIGNOR TO HENRY SHUTE, OF ASHFIELD, NEW SOUTH WALES.

VENETIAN BLIND.

SPECIFICATION forming part of Letters Patent No. 572,927, dated December 8, 1896.

Application filed April 30, 1895. Serial No. 547,705. (No model.) Patented in England December 27, 1894, No. 25,137.

To all whom it may concern:

Be it known that I, CARL CEDERBERG, painter, of Harris Street, Sydney, in the Colony of New South Wales, have invented a new and useful Improvement in Venetian Blinds and in the Means Employed for Operating and Adjusting the Slats of Same; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The invention has been patented in England December 27, 1894, No. 25,137.

My invention has for its object the improved construction of Venetian blinds, so as to render them more durable and of easier adjustment. For this purpose I dispense with what are known as "ladder-tapes," which are used to keep the slats equidistant, and which also serve to retain them in their true lateral position, and in lieu thereof I provide a peculiarly-constructed linked suspender made of any suitable metal.

It consists of a series of loops, which while they are joined to each other by bands yet are capable of being folded the one onto the other without proving an obstruction to the slats when it is desired to change their position. The aforesaid bands connecting the loops are so shaped that the folding movement is carried out alternately throughout the entire length of the blind, commencing at the lowest part, where the first pair of slats are drawn together, and continuing upward according to the height to which it is desired to raise the blind, and the folding may (according to the relative position occupied by the bands) be performed either between the slats or outside of them. These bands are applied to each pair of loops, and a trefoil hinge is used to connect them, two of the joints in the hinge being used for the loops and the third joint for connecting the slat-supports, which are also composed of metal.

A further improvement consists in the use of loop suspenders, which I attach to the head-piece of the blind carrying the cord-rollers. These suspenders are made of sufficient length to admit of a rising movement being imparted

to that portion of my blind which I call the "link-carrier," which is provided at each end with a grooved bearing-plate which fits in the aforesaid loop suspenders and is capable of being oscillated, so as to change the slant of the slats, as may be desired. The grooved bearing-plates can be made (at the will of the person operating the blind) to rise until they come in contact with the head-piece of the blind, but this only takes place when the whole of the slats are drawn tightly together by means of the lifting-cords.

A further improvement consists in the use of a cord-holder, which I attach to the head-piece of my blind in such a position that it will come into contact with the lifting-cords which are used for raising or lowering the slats and also for operating the link suspenders. This cord-holder consists of a combined chair, the foot-piece of which is also formed into a chock and serves as an adjunct to the gripping device, which is supported in the aforesaid chair. This gripping device consists of a pivoted plate, one end of which is roughened or serrated, grooved or chambered, so as to give the necessary holding power when brought into contact with the cords. The other end of this gripping-plate is provided with a fork, which passes over the lifting-cords when the plate is operated and offers no obstruction to the rising movements of the cords when they are operated in the releasing direction. This forked end is made, preferably, curved inward and carries an extended bar for the operating-cord and also has a spring-pressure plate for a spring-lever attachment, which is secured to the aforesaid chair. This spring serves to keep the pivoted plate in such a position that when the attendant releases the lifting-cords of the blind the blind cannot of its own accord descend; but if the attendant should pull the cord which I attach to the aforesaid extended arm, against which the spring-lever is pressing, the lifting-cords will be released from the gripper and the blind may be allowed to descend to its full length. Immediately the cord attached to the extended arm is released the gripper is again put into action by the

spring-lever, and although in its normal position the gripping device is always ready to act upon the lifting-cords yet if the lifting-cords are drawn so as to raise the blind my gripping device will offer no obstruction to the cords.

With these various improvements I construct a complete and novel Venetian blind having all the necessary rising, falling, slanting, and folding movements and also the necessary check action to retain the blind at any desired height.

By dispensing with the wooden slats, such as Venetian blinds are usually composed of, and substituting metal I am able by reason of my peculiarly-constructed link suspenders, which are also of metal, and also by providing wire cords or chains, to construct a blind suitable for fireproof purposes, and which will answer the same purposes as metal sliding doors, such as are now in general use. If my blind is used as a substitute for such doors, the advantage I claim for it is that it may be put into a limited space, such as a cavity or recess, when it is desired to provide ingress or egress through the doorway. In order to secure the slats in a folded position, so that one will overlap against the other, I provide a locking-bar or a series of locking-bars suitably attached to any desired number of the slats and the head-piece.

My invention is illustrated by the accompanying drawings, in which similar parts throughout the different figures are lettered similarly for identification.

Figure 1 is a side view of a Venetian blind fitted with my improvements. Fig. 2 is an end view of Fig. 1, taken at the end where the lifting-cords are operated. Fig. 3 is a detail of the linked suspender with the parts opened out. Fig. 4 is a perspective view of my cord-holder attached to head-piece, also link-carrier and loop suspenders. Fig. 5 is a detail of loop suspender. Fig. 6 is a further detail of Fig. 3, showing the folding movement of the linked suspender. Fig. 7 is a side view of a fireproof blind, showing method of securing the slats in a slanting position. Fig. 8 is a detail of the locking-bar. Fig. 9 is another view of my cord-holder shown in Fig. 4, with chair removed to show position of chock.

The head-piece A may be supported in any convenient manner, according to the position where it is desired to place the blind. It contains the usual cord-rollers B for the lifting-cords C, which pass down through the slats D and are secured to the bottom portion E. The leading-rollers F are used for separating the cords C, so that they pass under the pivoted plate G, which serves the purpose of a cord-holder by using the bottom end H as a gripping-surface. The forked end I of G is so constructed as to provide clearance for the traveling cords C when the position of G is altered by the person operating the blind. G is supported in the combined chair J by

means of pivots K, the chock L being placed in the position shown, between J J, so as to cause a kink to be formed in the cords C when H is brought in contact with them. The extended bar M may form an integral part of G, and to it the operating-cord N is secured. The pressure-spring O, one end of which is brought in contact with M, serves to keep G always in its operating position.

The top movable portion of the blind, which I term the "link-carrier" P, serves as a support for the mechanism used for carrying and operating the slats. To the ends of P, I attach the grooved bearing-plates Q, which are supported and will oscillate in the loop suspenders R, which are supported to the underside, in any convenient way, of A. The bent portion of R forms a seating or bearing for Q, so as to admit of P being placed in a slanting position. The upper portions of R are parallel and are of sufficient length to admit of the same lifting movement being imparted to D and E by the lifting-cords C. This rising movement is shown in dotted lines in Fig. 5.

The mechanism forming the link suspenders consists of the hinged plate S, secured to P and the bottom to E. One of the connecting-loops T is inserted therein and also in the folding-band U. This folding-band is provided with shoulder-pieces V, which serve to keep the loops T in their right position and to insure their folding in the desired direction when the slats are being drawn together. The trefoil hinge W also receives the connecting-loops T, as shown in Fig. 3, and also the slat-supports.

When the lifting movement is imparted to the slats, the various parts of the mechanism will fold together in the manner shown in Fig. 6 and will occupy a position between the slats D. By reversing the folding-bands U, so that the shoulder-pieces are outside instead of inside, as shown in Fig. 3, then the folding movement imparted by them to the connecting-loops T will cause them to assume a projecting position outside the slats instead of between them. This movement forms part of my invention, but I do not consider it to be so useful as the folding movement between the slats.

When constructing a fireproof blind according to this invention the slats D are composed of metal, as are also the other parts accessible to heat or flame. The mechanism in all its particulars will be similar to that described for an ordinary blind, but proportionately stronger, and to give greater security to the blind, when the slats are placed in a slanting position I use the locking-bars Y. (Shown in Figs. 7 and 8.) These are secured to A by inserting the upper end in the metal pocket Z and the lower end in the foot-piece A', which may be either attached to E or to a permanent portion of the structure. The contact-plates B' are projections formed upon

the inside of Y and are made to press against the slats, so as to prevent their forcible disarrangement.

Having now particularly described and ascertained the nature of my said invention and the manner in which the same is carried into effect, I declare that what I claim is—

1. In a Venetian blind, the combination of the head-piece, the series of slats with the lifting-cord, the links, the link-carrier P and the connection between the link-carrier and the head-piece consisting of the loop R depending from the head-piece and having parallel sides with a cross-piece at their lower end and the grooved bearing-plates Q engaging the depending loop, said plates being carried by the ends of the link-carrier plate whereby the blind may be raised against the head-piece or inclined in the said loop, substantially as described.

2. A Venetian blind comprising the head-piece, the lifting-cords, the series of slats and the links carrying the same and consisting of the loops T, the hinge-bars W of trefoil form and having the three eyes, the cross-bars α carried by the said hinge-bars and the cross-

pieces V connecting the loops T, said cross-pieces having lugs at their ends engaging the loops T, substantially as described.

3. In a Venetian blind, the combination of the head-piece, the slots, the operating-cords, and the controlling device for the cord comprising the pivoted plate forked at one end to avoid contact with the cord and having a foot H at the other end to engage the cord, the chock-piece L arranged on the head-piece adjacent to the foot H and adapted therewith to form a kink in the cord and means for operating the controlling device.

4. In combination in a Venetian blind, the series of slats with supporting and operating means therefor, and the locking device consisting of the bar having bearings at the top and bottom of the blind, said bar having projections B' arranged to engage the edges of the slats, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CARL CEDERBERG.

Witnesses:

JOHN J. STONE,

HARRY A. SMEDLEY.