No. 799,398. PATENTED SEPT. 12, 1905.

G. McMULLEN.

COLLAPSIBLE BLIND OR SHUTTER.

APPLICATION FILED APR. 30, 1904. RENEWED JULY 28, 1905.

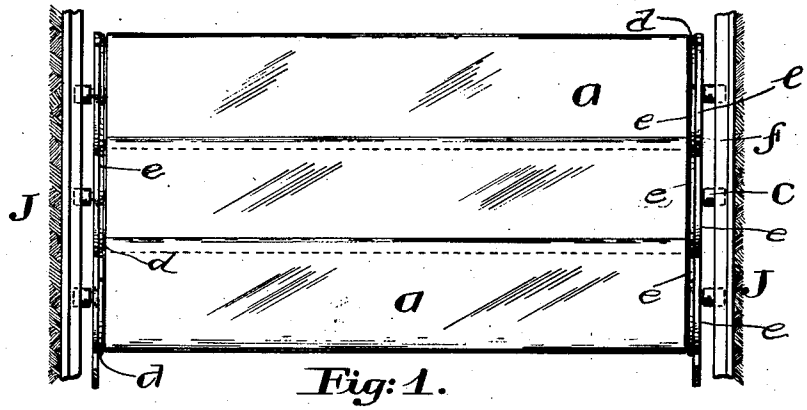


Fig: 1.

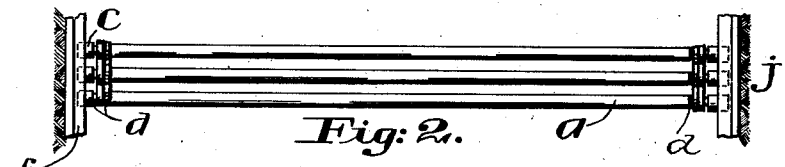


Fig: 2.

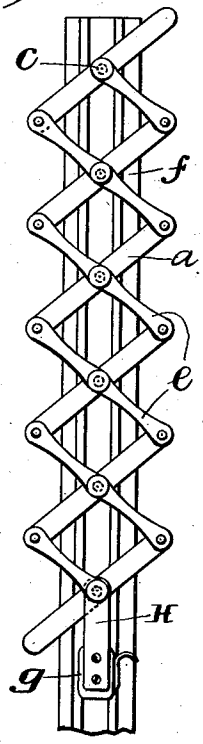


Fig: 3.

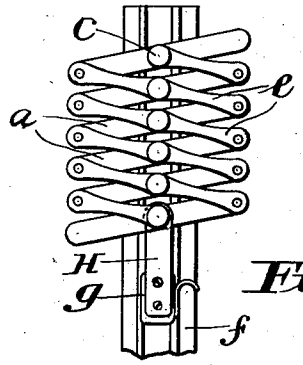


Fig: 4.

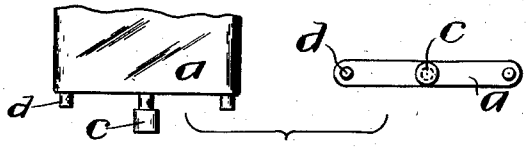


Fig: 5.

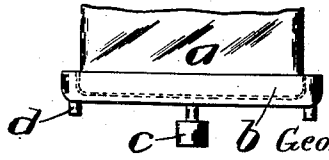


Fig: 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE McMULLEN, OF PERTH, WESTERN AUSTRALIA, AUSTRALIA.

COLLAPSIBLE BLIND OR SHUTTER.

No. 799,398. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed April 30, 1904. Renewed July 28, 1905. Serial No. 271,717.

To all whom it may concern:

Be it known that I, GEORGE McMULLEN, a subject of the King of Great Britain and Ireland, residing at Sampson's Buildings, Barrack street, Perth, Western Australia, Australia, have invented a certain new and useful Improvement in Collapsible Blinds or Shutters, of which the following is a specification.

This invention relates to lath blinds and shutters, and more particularly to that kind of blind usually fitted in tram and railway cars and such like vehicles for intercepting the rays of the sun and also allowing the air to pass freely through the car, such blinds acting as auxiliaries for the ordinary glass windows.

According to this invention the laths or slats which compose the shutter are formed at the center of their ends with projecting studs, and on both sides of such studs pins are provided. These studs run freely in grooved bars fitted on each side of the shutter, and in the case of an ordinary window these grooved bars may be attached to the inside face of the window-frame. Instead of forming the studs and pivots in one piece with the slats the slats may be incased at their ends by metal caps, which fit over the ends and which may be kept in place by pins or otherwise. These caps are formed on the outside with the studs and pins. Short strips of metal acting as links for connecting the slats together are pivoted at the center of each cap by the studs before mentioned and attached by the pins to alternate ends of each adjacent slat, the studs acting as the pivots for the links. These links are interposed between the ends of the slats and the grooved bars forming the guides.

In the accompanying drawings, Figure 1 is a front face view of a blind constructed according to this invention and as seen from the inside of the window. Fig. 2 is a similar view with the slats in the raised position, as when not in use. Fig. 3 is an end view looking toward the right with the left side guide removed. Fig. 4 is a similar view with the slats in the raised position, as when not in use. Fig. 5 shows two separate views taken at different angles and representing the end and lateral surface of the slat formed with the stud and hinge. Fig. 6 shows one end of a slat incased in a cap which is provided with the stud and pins.

In Figs. 1 to 5 of the drawings, *a* are the slats which make up the blind and which are made one with the studs, as *c*, at about the center of their ends and also with the pins, as *d*. The links, as *e*, are held loosely on the slats by the studs and at their extremities are connected to the upper and lower slats by the pins, as shown. The heads of these pins may be riveted and countersunk. The studs *c* move and work freely in the grooves of the bars *f*, as shown. These guides are secured to the inside edge of the window-frame *j*.

In the type of slat as shown in Fig. 6 the ends are incased by metal caps *k*, which fit over such ends and may be kept in place by pins or otherwise. These caps are formed on the outside with the projecting studs *c* and pins *d*.

The uppermost or any slat may be secured from moving along the guides by having its studs pivotally fixed to the frame.

In the blind as illustrated the studs of the top slat are held to the window-frame, and therefore carry all the slats of the blind, which when not in use forms a compact body at the top of the window. The slats can be attached at the bottom to the bar *g* by the links *h*, as shown, and this bar would carry any ordinary form of finger-plate by which the blind can be raised and lowered. The blind would be held at any position in its up-and-down movement by any suitable means. In the blind as illustrated the studs *c* are shown on each of the slats, but may be formed only on each alternate one, or, in the case of a greater number of slats, on every third, fourth, or any one. In such case pins similar to the outer ones would act as the pivots for the links.

The studs *c* are enlarged at their outer ends, as shown at the left of Fig. 5, the enlarged portion engaging the window-frame and preventing the removal of the links.

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

1. In a blind or shutter, the combination with vertical bars on the sides of a window, said bars being provided with longitudinal grooves, of slats provided with caps fitting upon and secured to the ends of the slats, said caps each having a central headed stud and a pin on each side of the stud, the said studs having their heads working in the grooves of said bars, and links pivoted at the center of their length on the stud of one slat between the slat and the head of the stud and having their ends pivoted to the pins of the caps of two adjacent slats, substantially as herein shown and described.

2. In a blind or shutter, the combination of

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longitudinal grooved bars at the sides of a window, of slats provided at the center of their ends with headed studs having their heads engaging the grooves of said bars, said slats being also provided at their ends adjacent to opposite edges with pins, and links pivoted at the center of their length on the stud of one slat between the slat and the head of the stud, and having their ends pivoted to the pins of two adjacent slats, substantially as herein shown and described.

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

GEORGE McMULLEN.

Witnesses:
JAMES HOWARD HAYES,
FRED WALTHAM.