W. C. G. PETER.

ROLLER FLY SCREEN.

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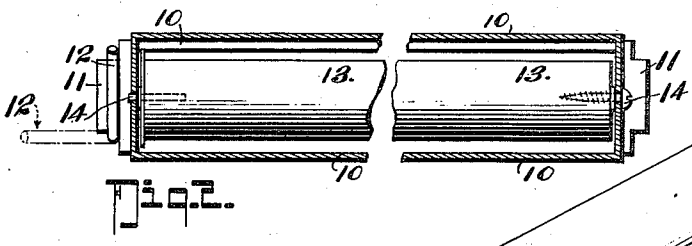

Fig. 2.

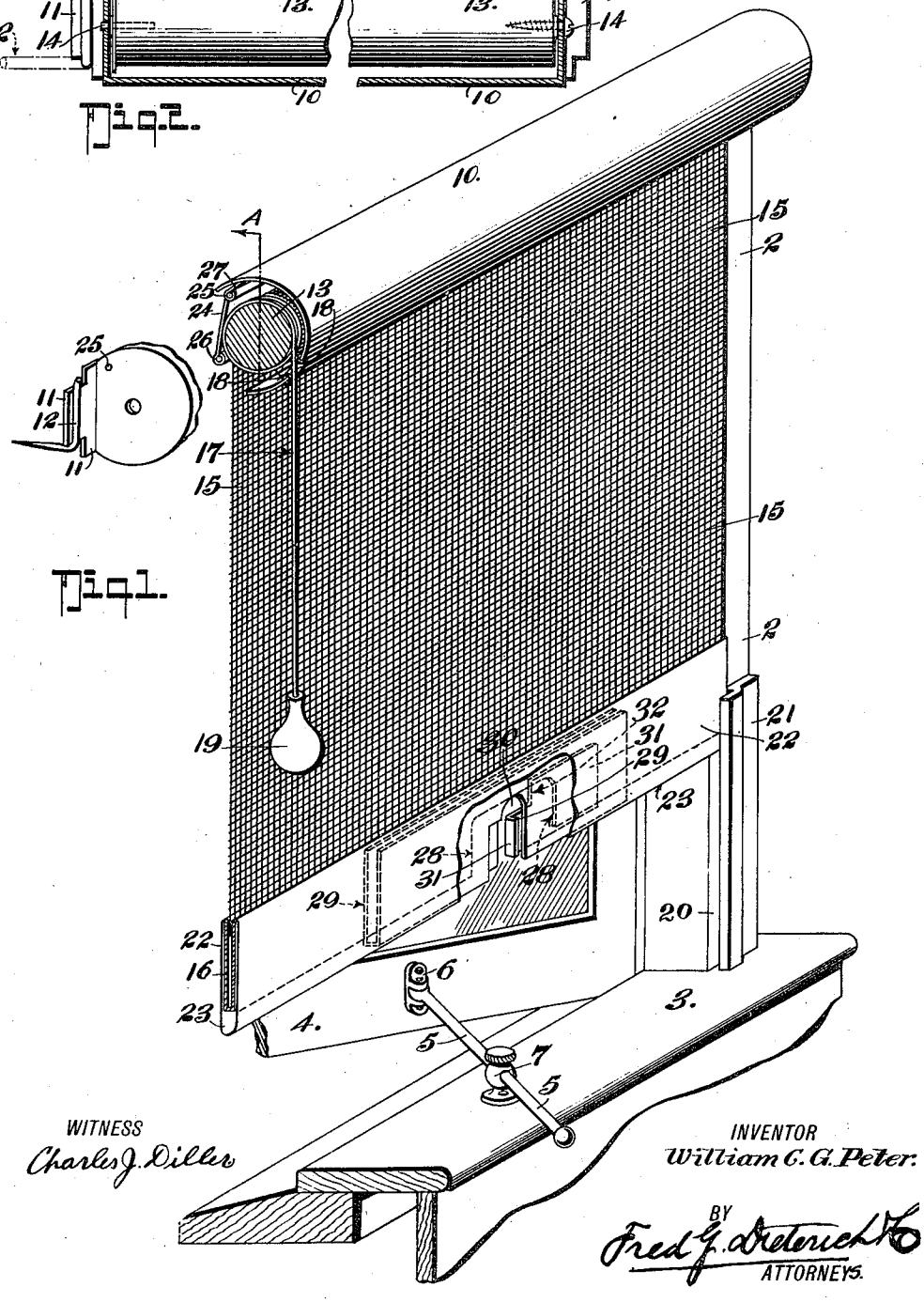

Fig. 1.

WITNESS
Charles J. Dillon

INVENTOR
William C. G. Peter.

BY
Fred J. Dieterich & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. G. PETER, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

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To all whom it may concern:

Be it known that I, WILLIAM C. G. PETER, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented certain new and useful Improvements in Roller Fly-Screens, of which the following is a specification.

This invention relates to a window fly screen of that class wherein the gauze screen is mounted on a roller which is rotatable within an inclosing casing adapted to be removably secured across the top of a window frame on the inner or room side.

The invention comprises the general construction of the screen and the manner of mounting the same that it may effectively exclude flies from a room when applied to the inside of a window frame. It is adapted for use with a slidable or a casement sash, and can be conveniently rolled up from the inner or room side and is self-sustaining in either the open or the closed position.

The particular features to which attention is drawn are the attachment of the roller casing to the inner facing of the window by which the roller winding cord or line may depend directly from the roller on the inside of the window sash, the provision of a flexible fly excluding flap depending from the upper edge of the roller casing and weighted to bear against the outer side of the blind on the roller, the means whereby the closure of the lower edge of the screen on the window sill is effected, and the provision enabling the blind to be applied to a casement window having an opening and securing bar.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 is a perspective view and part section showing the application of the screen to a casement window, and Fig. 2, a longitudinal section on the line A in Fig. 1.

In these drawings 2 represents the inner facing of a window frame, 3 the window sill and 4 the sash, which is hinged as a casement and is secured in any desired position of opening by a bar 5 hinged at 6 to the lower rail of the sash and is endwise slidable and securable in a sleeve 7 which is pivotally mounted on the sill.

Removably secured in any convenient manner to the inner facing of the window frame is a sheet metal casing 10 formed as a segment of a cylinder. The ends of this casing are flanged outward, as at 11, toward the open segment of the casing, and these outwardly flanged ends form the means for attachment to the inner facing of the window. Attachment is here shown as made by means of wire cleats 12 secured in the window facing and susceptible of being turned outward, as indicated in Fig. 2, for removal of the casing and its contained screen from the window, when not required, as during the winter months.

In the ends of the casing 10 a roller 13 is rotatably mounted by means of axial end pins 14. One of these end pins is screwed into the end of the roller from the outside to facilitate introduction of the roller or its removal from the casing. On this roller is secured a wire gauze screen 15 on the free end of which is secured a strip 16 of a weight sufficient to draw the screen flatly out when it is unwound from the roller.

One end of the roller extends a short distance beyond the adjacent edge of the screen secured to it, and is flanged to retain on it a cord or other flexible connection 17. One end of this cord is secured to the roller, around which it is coiled in an opposite direction to the screen, and the free end of 17 is passed through an eyelet 18 and has a weight 19 secured to it sufficient to insure that the cord winds closely on the roller.

Each side edge of the screen 15 moves in a groove 20 provided on each side of the window frame, which groove may be formed by a strip of metal or a rabbeted strip 21 of wood. To enable the lower edge of the strip 16 of the screen to form an effective closure on the sill of the window, when the screen is drawn down, the strip has secured to it adjacent the attachment of the screen, a covering 22 of leatherette or other suitable flexible fabric, the loop 23 of which projects beyond the lower edge of the strip. This free loop will adapt itself to slight inequalities in the surface of the sill 3.

To prevent flies crawling up the outside of the screen from obtaining entrance to the room around the inside of the casing 10, a flap or short curtain 24 is suspended from a rod 25 extending across between the ends of the casing above and slightly within the circle of the roller. The lower edge of this curtain is weighted with a rod 26 threaded through it which will hold the curtain

against the screen of the roller and will prevent entrance of the flies. The upper edge of this curtain projects, as at 27, above the hem through which the suspension rod 25 is passed so that it will effect a closure between it and the inside of the casing, or the flap 24 may be connected direct to the upper edge of the casing.

Where the screen is applied to a casement window, as shown in the drawing, provision is made to enable its strip to pass over the bar 5 by which the window is secured in the open position. As the position of the rod 5 angularly changes across the width of the window according to the amount the window is opened, the strip 16 is formed of folded sheet metal, as shown in the drawing, and a gap 28 is cut from the lower edge upward corresponding in length to the extreme angular range in the position of the securing bar 5, and slidably fitting on the fold of the strip 16 is a correspondingly bent strip 29 which is provided with a gap 30 corresponding to the diameter of the bar 5. The gap 30 may thus traverse laterally across the width of the blind within the range required. The slidable strip 29 may be covered with fabric which may be slit in the middle of the gap to form a more effective closure in its adaptation to the securing bar 5.

As the bar 5 is usually above the level of the sill a shutter 31 having an outwardly turned finger engagement is slidable within the member 29 and is of such depth that it will close the gap 30 beneath the bar after the screen is drawn down to the sill. This shutter 29 is shouldered as at 32, so that by moving it further across, the gap 30 may be entirely closed, when not required.

A simple roller fly screen is thus provided that may be applied to the inside of a window having either a lifting or a casement sash and having provision both along its lower edge and around the upper part of the roller to effectively close the window opening against the entrance of flies.

The weight of the lower edge strip 16 of the screen is sufficient to hold it down in the closed position, and when drawn up within the casing the resilience of the wire gauze screen is such that it expands outward into the casing and has a frictional hold therein that prevents the weight of the strip from drawing it down. The blind is thus self-sustaining in both the open and the closed position and requires no fastening such as is necessary when the screen is wound on a spring actuated roller.

I am aware that prior to my invention roller screen blinds have been used for this purpose but they have commonly been applied outside the window sash in which position they are not only more exposed to the weather and therefore more liable to destructive corrosion but such cannot be applied to casement windows, and the lifting means, where such is used, cannot be conveniently conveyed to within the room. Nor am I aware of any blinds being furnished with means to effect satisfactory closure on the sill, nor with the curtain or flap closing access around the roller casing.

Having now particularly described my invention, I hereby declare that what I claim as new and desire to be protected in by Letters Patent is comprised in the appended claims.

1. A roller fly screen, comprising the combination with a roller mounted in a suitable casing for attachment to the inner face of a window frame, said roller having attached to it a gauze screen, a flexible line secured to one end of the roller and coiled around it in a direction opposite to the coil of the screen, a strip secured to the lower edge of the screen said strip having a covering of fabric bent around its lower edge and secured adjacent the upper edge the bend of the fabric projecting below the lower edge of the strip, and strips secured to the stiles of the window facing forming grooves for the side edges of the screen.

2. A roller fly screen comprising the combination with a casing, a roller rotatably mounted in said casing for attachment to the inner face of a window frame, the said roller having a gauze screen attached to it, a weighted flexible line secured to one end of the roller and coiled around it in a direction opposite to the coil of the screen, and a weighted strip secured to the lower edge of the screen, the said screen being adapted to engage the casing with retaining friction to hold it in the rolled up position.

3. A roller fly screen, comprising the combination with a suitable casing, of a roller rotatably mounted therein, said roller having attached to it a screen of wire gauze, a flexible line secured to one end of the roller and coiled around it in a direction opposite to the coil of the screen, a short flexible curtain having a weighted lower edge depending from a rod extending across the upper part of the casing between its ends, said curtain resting against the side of the roller adjacent the window and projecting above the rod from which it is hung to engage the inner side of the casing adjacent.

4. A roller fly screen, comprising the combination with a roller rotatably mounted within a suitable casing having provision for removable attachment to the inner face of a window frame, said roller having attached to it a screen of gauze the lower edge of which has a strip with flexible provision projecting below its lower edge for adapting the closure to slight inequalities in the surface of the window sill, a flexible line secured to one end of the roller and coiled

around it in a direction opposite to the coil of the screen said line passing through an aperture in the casing and depending therefrom with a weight secured to its lower end, a flap of flexible fabric connected to the upper part of the casing toward the window sash, said flap weighted along its lower edge to depend against the adjacent sides of the roller, and strips secured to the stiles of the window frame forming grooves for the side edges of the screen.

5. A roller fly screen, comprising the combination with a roller rotatably mounted within a suitable casing adapted for attachment to the inner face of a window frame, said roller having attached to it a gauze screen, a strip of sheet metal secured to the lower edge of the screen, said strip having an elongated gap in its lower edge, a member having a gap in its lower edge adapted to pass over the rod of the window opening bar, said bar slidable in the gap of the screen strip, and a shutter slidable across the gap in the slidable member and adapted to close the lower part of the whole of the gap.

6. A roller fly screen, comprising the combination with a roller rotatably mounted within a suitable casing adapted for attachment to the inner face of a window frame, said roller having attached to it a gauze screen, a strip of sheet metal folded double and secured by the free edges to the lower edge of the screen, said strip having an elongated gap removed from the lower or loop edge, a similarly folded member endwise slidable within the fold of the strip and having a gap removed from its lower edge corresponding to the diameter of the window fastening bar, and a shutter endwise slidable within the slidable member and adapted to close the lower portion of the gap in it and on further movement to inclose the entire gap.

In testimony whereof I affix my signature.

WILLIAM C. G. PETER.