G. P. MITCHELL.

WINDOW BLIND.

APPLICATION FILED JUNE 29, 1908.

916,752. Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.

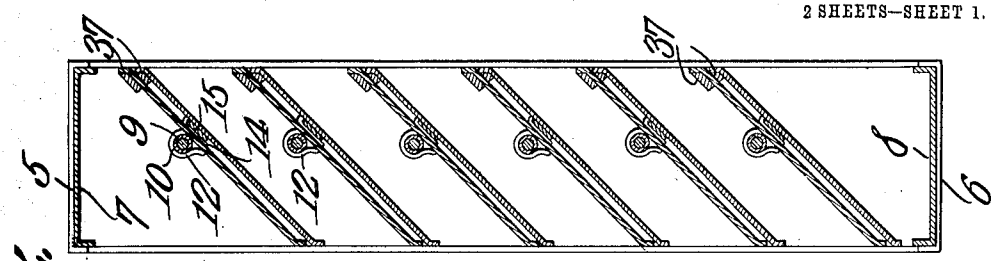


Fig. 2.

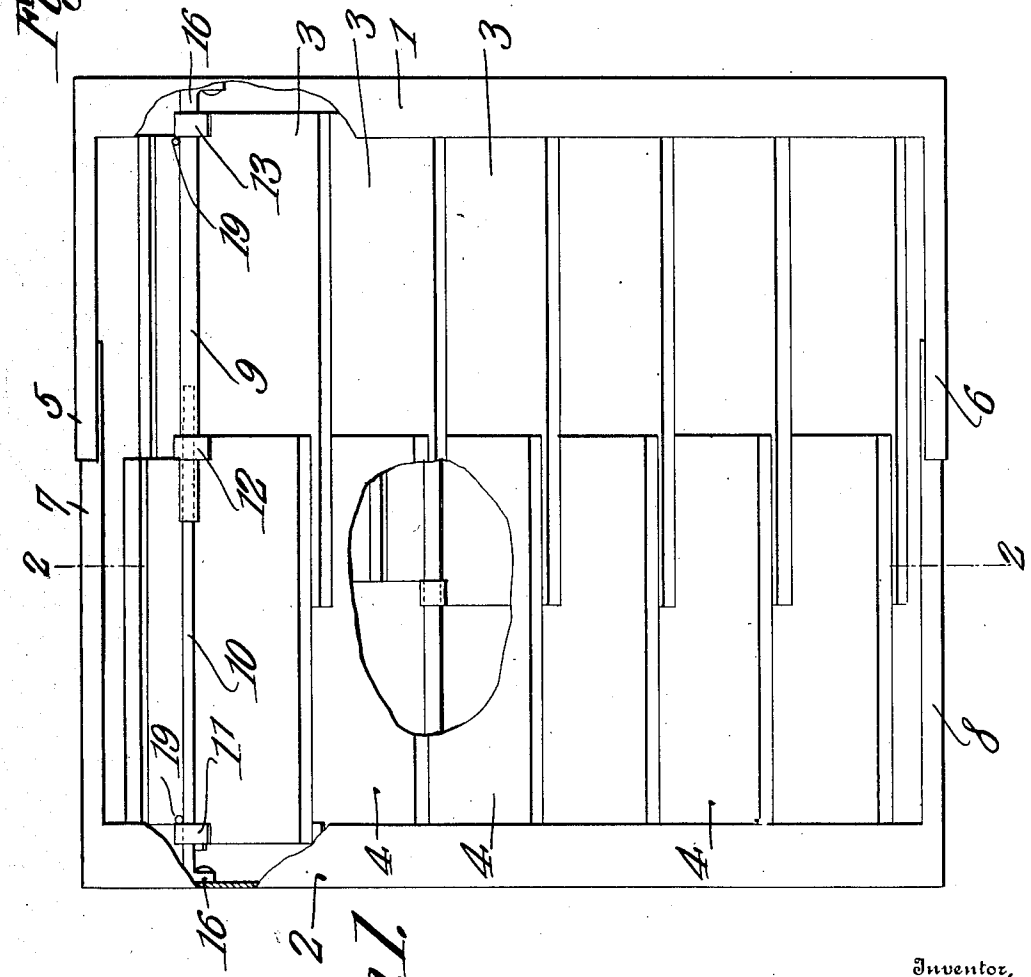


Fig. 1.

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2 SHEETS—SHEET 2.

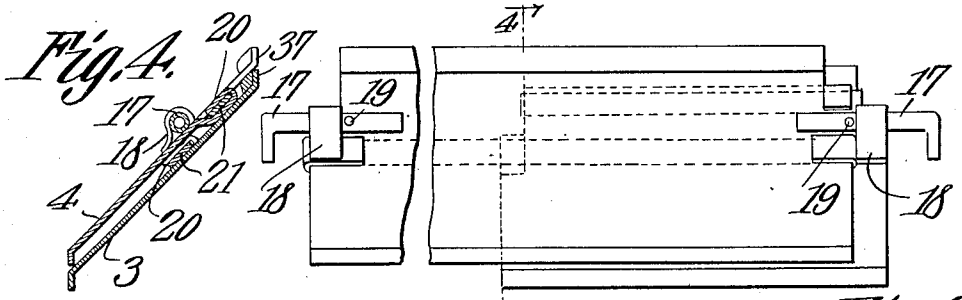


Fig. 3.

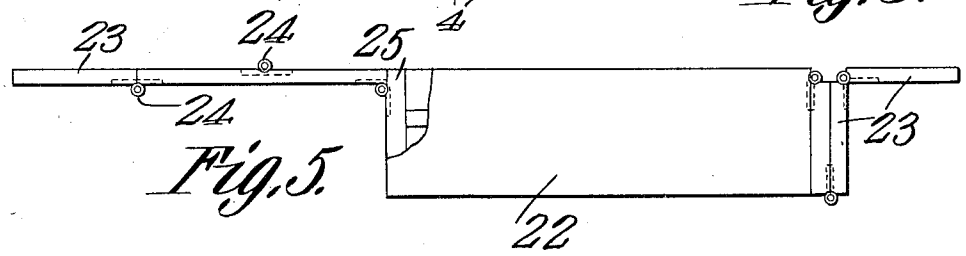
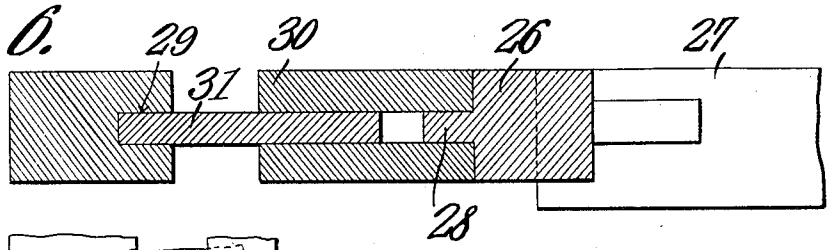


Fig. 5.

Fig. 6.



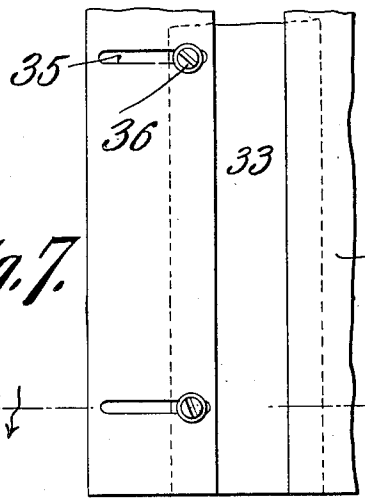


Fig. 7.

Fig. 8.

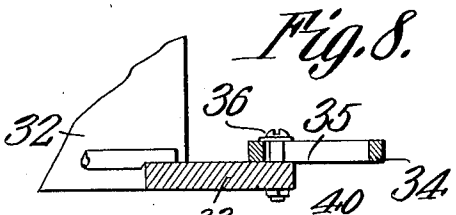
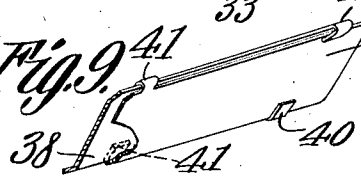


Fig. 9.



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UNITED STATES PATENT OFFICE.

GEORGE P. MITCHELL, OF SHENANDOAH, IOWA.

WINDOW-BLIND.

No. 916,752. Specification of Letters Patent. Patented March 30, 1909.

Application filed June 29, 1908. Serial No. 440,950.

To all whom it may concern:

Be it known that I, GEORGE P. MITCHELL, a citizen of the United States, residing at Shenandoah, in the county of Page and State of Iowa, have invented a new and useful Window-Blind, of which the following is a specification.

This invention relates to window blinds.

The object of the invention is to provide a blind that shall be capable of ready adjustment to window frames of different widths, and which may be arranged either above the upper or below the lower sash, and which shall be of such construction as to allow free circulation of air through a room under ordinary conditions, but which in the event of high winds accompanied by rain will automatically operate to preclude entrance of the latter, whereby to render it unnecessary to close the windows during a rain storm, thereby to obviate a source of discomfort to the occupants of a room, especially if the storm be of long duration. Furthermore, to render it possible to air a house, office, or any style of building, either public or private, while the tenant is absent, with absolute assurance that rain will not get in through the blinds.

With the above and other objects in view as will appear as the nature of the invention is better understood, the same consists, generally stated, in a window blind employing pivoted counter-balanced slats, which under normal conditions, that is to say where a gentle breeze is blowing, will remain open, and thus permit free circulation of air, but which will automatically close where heavy gusts of wind are blowing, especially if accompanied by rain, thus to prevent entrance of the latter to the room.

The invention consists further in the various novel details of construction of a window blind, as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification, and in which like characters of reference indicate corresponding parts, Figure 1 is a view in front elevation, with parts broken away, exhibiting one form of the invention. Fig. 2 is a vertical transverse sectional view taken on the line 2—2 of Fig. 1. Fig. 3 is a view in front elevation of a modified form of slat, and means for supporting the same for swinging movements. Fig. 4 is a vertical transverse sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a top plan view showing a modified arrangement for adapting the blind to be adjusted to window frames of different sizes. Fig. 6 is a top plan view, part in section of another means of adjusting the frames to different sizes of windows. Fig. 7 is a view in elevation of still another form of adjusting means for a blind. Fig. 8 is a detail sectional view through the adjusting attachment shown in Fig. 7. Fig. 9 is a perspective detail view, partly in section, of a modified form of blind slat.

The blind shown in Figs. 1 and 2 comprises two stiles 1 and 2, a plurality of slots 3 supported in a novel manner from the stile 1 and a plurality of slats 4 supported by the stile 2. All of the parts of the blind are, by preference, made of galvanized iron, on account of its strength and rust resisting qualities; but any other sheet metal may be utilized for the purpose that will be found applicable therefor, or a combination of metal and wood, if preferred. Each of the stiles 1 and 2 is a trough-like structure, and each has secured to it two guides, the guides 5 and 6 being carried by the stile 1 and the guides 7 and 8 by the stile 2. These guides are also trough-like structures, and are secured to the stiles in any preferred manner, as by soldering. As shown in Fig. 2 the guides are nested, and are designed to present surfaces to rest upon the window sill and to be engaged by the lower edge of the sash rail. Soldered or otherwise secured to the inner walls of each of the stiles is a series of tubular arms 9 and 10 respectively that are disposed in alinement, and are designed to telescope. These arms are engaged by clips 11, 12 and 13, the clips 11 and 12 being in this instance carried by the terminals of the slats 4, and the clips 13 by the outer terminals of the slats 3. As shown, the clips are formed by incising the metal of the slats at right angles to its length, and then bending the tongues formed thereby into the appropriate shape to engage the arms and to swing freely thereon. Inasmuch as each of the slats 4 is provided with two of the clips, while each of the slats 3 is provided with but a single clip, it will be obvious that some means must be provided for sustaining the inner ends of the latter slats, otherwise they would drop, and thus fail to operate. To secure the sustaining of the inner ends of the slats 3, each is provided

with a tongue 14, corresponding to the clip 13, except that it is bent to line parallel with the adjacent portion of the slat, thereby to form a clip that is designed to engage a guide 15, which consists of a strip of metal, the ends of which are bent around the slot 4, beneath the clips 11 and 12, and secured thereto as by soldering. As the guides 15 will be upon the rear sides of the slats 4, the appearance of the article will not be detracted from, while the proper supporting of the series of slats 3 will be assured. As shown in Fig. 1, the inner ends of the arms 9 and 10 are bent at right angles to their lengths to provide off-sets 16 that are secured to the inner walls of the stiles, but as will be apparent the arms may be otherwise attached, and as this will be obvious, detailed illustration of any modification is omitted. It is designed that the two series of slats shall be so suspended for swinging movements that under ordinary air pressure they will remain open, or in the position shown in Fig. 2, but in the event of heavy gusts of wind, especially if accompanied by rain, the slats will close and thus protect the room against the admission of rain. By the provision of the telescopic arms 9 and 10 and nested guides 5—8, lateral adjustments of the frame may be secured to cause it to fit window casings of different sizes.

In the form of the invention shown in Figs. 3 and 4, the nested arms are dispensed with, and in lieu thereof approximately L-shaped brackets 17 are employed that are riveted or soldered to the stiles. The slots 3 and 4 are provided with clips 18 one at each end only, and these clips are in this form of the invention, as also in that form shown in Figs. 1 and 2 held assembled with the arms and brackets by a lump of solder 19, or equivalent means. As the brackets 17, as stated, do not nest, or telescope it will be obvious that some means must be provided for supporting the inner ends of the slats in order to retain them in a horizotnal position, and also to slide relatively to each other when the frame of the blind is adjusted laterally. To secure this result, each of the slats is provided at its inner end with a flat clip 20 and these are designed to engage two guides 21 the counterparts of the guides 15 in Fig. 2, the ends of these guides being folded around these slats and soldered thereto.

From the arrangement described, it will be seen that the two sections of the blind may be readily adjusted laterally so as to fit any size of window frames, and further that the blind may be placed under the lower sash or above the upper sash, as may be preferred, and thereby secure the objects sought.

In the modified form of the invention shown in Fig. 5 it is designed that the slats 22 shall not extend from stile to stile, but be mounted to rotate or swing in the manner described. As the stiles are stationary, in order to adjust the blind to window sashes of different widths, a plurality of extensions 23 are provided on each side of the blind and are secured together by hinges 24. As shown at the right hand of Fig. 5, these extensions can be folded back against each other, or be extended in a line parallel and flush with the back of the stiles 25, thereby to permit the blind to be adjusted to fit the window frame.

A further manner of securing the adjustable feature of the blind is shown in Fig. 6 in which the stiles 26 have the slats 27 secured to them for swinging movement. The outer side of each of the stiles is provided the one with a tongue 28 and the other with a groove 29. The tongue 28 has secured to it extensions 30 which form a pocket to receive an extension 31 secured in the groove 29. As will be obvious, this arrangement will permit of the requisite adjustment of the two sections to allow the blind to be adjusted to any window casing.

In the modified form of the invention shown in Figs. 7 and 8, the adjustment of the blind to the window casing is secured without the provision of the overlapping slats, although the latter are pivotally supported and counterweighted at their upper edges. In this arrangement, the stiles 32 have secured to them any desired number of extensions 33 and 34, the extensions 33 being rigid to the stiles and flush with the rear edges thereof. The extensions 34 are provided with a plurality of transverse slots 35 through which extend screws 36 that engage with the extensions 33. It will be seen from this arrangement that should the blind be too narrow to extend from side to side of the window frame, that the extensions 34 may be moved outward to compensate for the lack of width, and thereby secure the same action that results from the arrangements shown in the other figures.

It will be noted by reference to the different figures of the drawings that the slats are eccentrically supported, their broader areas being disposed at the outer side of the blind, and further that each of their rear edges carries a suitable counterweight 37 that operates under normal wind pressure to hold the slats open, and also to return them to their normal position after having been closed by a heavy gust of air.

In the slat shown in Fig. 9, which it is to be understood will be pivotally mounted, two like sections 38 and 39 are employed, the two edges of each of which are reversely bent or deflected, the rear edges upward and the forward edges downward, in the same manner as that shown in Figs. 1 and 4, it being understood that this feature is common to all of the slats illustrated. The section 38 has

at one end two tongues or clips 40 that are bent around the edges of the section 39, and the latter section has at one end two tongues or clips 41 that are bent around the edges of the section 38, and by this arrangement the two sections will be adapted for longitudinal movements relatively to each other.

I claim:

1. A window blind comprising two sections connected for sliding movements relative to each other, and counter-balanced swinging slats carried by the sections.

2. A window blind comprising a pair of stiles, arms projecting therefrom, laterally extensible slats mounted for swinging movements upon the arms, and means for holding the slats in alinement.

3. A window blind comprising a pair of stiles, laterally extensible arms carried by the stiles, and extensible slats connected for swinging movements with the arms.

4. A window blind comprising a laterally extensible frame, and swinging counter-balanced extensible slats supported by the frame members.

5. A window blind comprising a pair of extensible stiles, arms projecting inward therefrom, a double series of slats provided with clips to engage the arms, guides carried by one series of the slats, and clips carried by the other series of slats to engage the clips.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE P. MITCHELL.

Witnesses:

JAS. M. WALKER,

R. M. ELLIOTT.