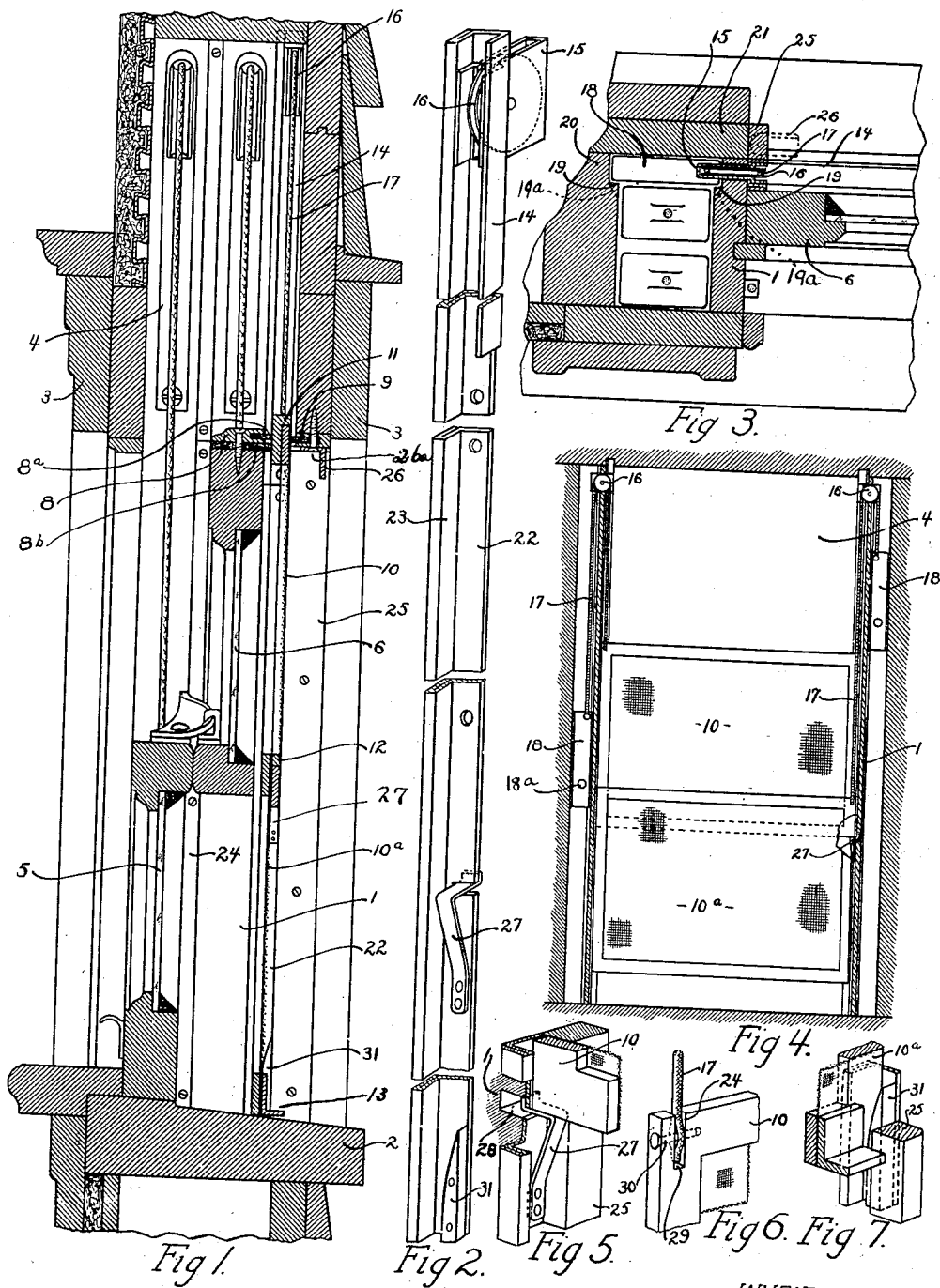


E. H. LUNKEN.
POCKET WINDOW SCREEN.
APPLICATION FILED APR. 30, 1917.

1,285,754.

Patented Nov. 26, 1918.



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POCKET-WINDOW SCREEN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDMUND H. LUNKEN, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Pocket-Window Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to screens for pocket windows of the overhead type particularly, said screens to be preferably of the thin metal molding type which slide in channel pieces.

The object of my invention is to provide a fully practical screen structure in preferably two screens for each window, wherein the screens may go entirely into the pocket. In my Patent No. 1,201,598, is shown and described, among other things, a new arrangement of parts for pocket windows, and for such a window the screening device herein is intended. In my copending application Serial Number 148,030, filed February 12, 1917, is shown and described a screening device for pocket windows in which weatherstripping arrangements are made to allow the screens to slide into the pocket and be positioned so as to close the window opening, without the chance of dust or insects passing through the pocket opening for the screens and thence into the interior of the screened building. In this application a like weatherstripping feature is provided.

In my copending application Serial Number 153,708, filed March 9, 1917, is shown a screening device for pocket windows in which a double width channel is run throughout the window with a stop to hold the upper screen in lowered position, and both screens adapted to slide together in the double width portion. A similar channel arrangement is utilized in this invention. The first copending application shows the double width channel above the center of the window opening, but the channel is single width the rest of the way, which is not the case in this application.

In this latter application also is shown the interlocking screen rail attachments which carry the screens together into the pocket, which rail attachments are employed also in this invention.

In this invention, the screens are arranged so that either screen, within certain limits due to the interlocking rails, may take any position in the window and the channel is left double width throughout with a spring stop for the upper screen. This has certain advantages, which will be noted, over the prior applications.

In this invention also the screens are counterbalanced by weights, and arrangements are made for taking care of the weights and the pulleys with the greatest simplicity of structure. Instead of a half width channel of my earlier cases, at the lower end of the mounting devices in this invention a simple arrangement is made for holding in the lower molding of the lower screen, which prevents its rattling when lowered to the sill, without the expense of a special channel or a special filler bar for the lower end of a plain channel.

In this invention, the channels are preferably formed out of a wooden strip for the outer wall, and an angle strip of metal for the other two walls, and the channel may thus be made more cheaply as well as being more advantageous in several other ways to be duly pointed out, as, for example, doing away with noise, using the channel for a sash guide so as to give a spring friction and bringing the channel to a position out of sight in the frame opening.

The invention herein also deals with the mounting of the screen weight pulley by incorporating it in with the pocket portion of the channel, thereby accomplishing an easy installation and removal of the pocket channel piece and pulley at one time, somewhat after the manner of the sash pulley of my patent above referred to.

The above objects and advantages and others to be noted I accomplish by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed.

In the drawings,

Figure 1 is a central longitudinal section taken through a window frame and pocket showing my invention.

Fig. 2 is a detail perspective view of one of the screen guides or channels on a larger scale than Fig. 1 and broken away at the sectioned portion, the whole being made up of two parts.

Fig. 3 is a cross section through the top end of one of the weight pockets.

Fig. 4 is a longitudinal section through the window taken at right angles to the section in Fig. 1.

Fig. 5 is a detail perspective view of the spring stop for the upper screen.

Fig. 6 is a like view of the upper corner of one of the screens showing the counterbalance wire attachment.

Fig. 7 is a detail perspective view showing the guiding filler block at the base of the channel to make a non-rattling holder for the lower screen at the sill of the window.

The window shown has the side stiles 1, 1, the sill 2, the cap trims 3, 3, and the pocket 4 above the cap trim. The lower sash 5 and the upper sash 6 both slide into the pocket, and are separated by the usual parting strip. On the upper rail of the upper sash is shown the weatherstrip or sealing device 8, there being another weatherstrip 9 on the cap trim at the mouth of the pocket.

The upper screen 10 has the filler bar 11 across its upper molding to fit the double channel to be described, and the lower screen 10^a has the filler bar or interlocking bar 12 which engages between the upper and lower moldings of the upper screen, the lower screen also having the angle plate 13 along its lower edge.

All of these devices are part of the former applications filed by me as above explained, and result in the weather-jointed or sealed double screen arrangement, with interlocking screen moldings which chiefly distinguish my type of screen for pocket windows.

The guide or channel for the screens in this instance is made up of angle pieces of metal for the space beneath the pocket and a separate channel piece for the pocket. The pocket channel piece 14 has secured to the sides thereof just beneath the top and extending outwardly through the channel base, a pulley housing 15, in which is mounted a pulley 16. The channel thus has a free extended end which permits of seating it in a socket above the pocket to hold it in place, and serves as a screen guide and pulley mount combined. Not only does it do this, but due to its channel form it serves as a sash guide for the upper window sash when in the pocket. The channel being mounted on the window stile, its pulley will extend into the usual sash weight pocket.

The weight cord for the screens comprises a small wire cable 17 that is secured to the screens as will be described and extends over the pulley into the weight pocket, where it retains a weight 18. The weights 18 are made up preferably of a flat shape, and to accommodate them the side stiles of the window are cut away slightly at the corner at 19, as well as are the back boards 20 of the

weight pockets. The side board 21 of the weight box on the outside of the frame, when secured down against the weight pocket boards, forms a long narrow pocket for the weights 18 to slide in, which takes but very little room, and permits the side stile arrangements and the weight pocket arrangements to be made in standard window dimensions.

It will be noted that the shoulder formed at 19 is cut away at 19^a at the bottom of the weight pocket, so that the weights may be lifted out through the regular sash weight pocket from the standard weight box opening. The weights have a finger hole 18^a for this purpose. If the shoulders 19 were not cut away, the weights 18 could not be moved sidewise to pass said shoulders and thus be moved into the regular weight pockets for removal. While the cutaway portion is only indicated in dotted lines 19^a in Fig. 3, inasmuch as the section is taken above the bottom of the weight pocket, I believe it will be readily understood.

Mounted in the place of the usual outer guide strip for the upper window sash is an angle bar or strip of metal 22, having its inner wall 23 of double metal, formed by a return bend from the top of the wall. This bar then serves as a sash guide in place of the usual wooden strip, and because of the spring in the doubled metal, a slight friction is given to the sash contact which prevents rattling and makes a good weathertight fit, as well as spacing away the screens from the sash.

Mounted outside the base 12 of the angle strip or bar is a wooden strip 25, which makes up with the angle bar a double width guide for the screens, *i. e.* double the width of the screen moldings. It should be noted that the wall 23 of the angle bar can be made of the same depth as the parting strip 24 of the window and hence that it will not protrude into the field of vision any more than the parting strip or the outer strip, thereby making a very neat appearance.

Any desired catch 26 may be employed to hold the screens up in the pocket, and this may be mounted, if desired, between the upper end of the outer wooden strip and the outer cap trim of the window, so as to give support to the body of the catch. It will be noted that the catch 26 is pivotally held by a screw 26^a, which is located between the cap trim and the end of the wooden strip. Thus the screw is entirely concealed, which results in a very neat structure.

It has not been found necessary to have two counterbalancing weights for each screen, so that there is no necessity for providing more than one pocket for the screen weights, the lower screen having its weight on one side and the upper screen on the other side of the window frame.

The catch for holding the upper screen from lowering beneath the middle of the window, is in this invention provided by means of a spring 27 riveted to the base of the angle bar, and with its end free to move under pressure into a socket 28 in the side stile. The upper screen may be brought below the middle of the window frame, by pressing in the spring 27, thus providing more convenient positions for the screen for washing and such like, or for getting at the outside of the upper window sash without pushing the screens into the pocket.

The attachment of the counterbalance cables to the screens is done preferably by cutting out a notch 29 in the screen corner and setting a pin 30 into the molding across the notch (Fig. 5).

The wire is soldered at the ends and forced apart to receive the pin, which is a very simple operation, and particularly valuable in this case because the saving of space is a prime requisite so as to keep within standard construction.

For guiding the lower screen to its seat and providing a tight hold on its lower molding when the screen is on the sill in normal position, there is mounted in the lower end of the angle bar, on the base thereof, a tapering block 31, which widens at the lower end to half the width of the channel, thereby accomplishing the above stated purpose.

Instead of an angle bar for the screen channel, there could be a three-sided channel piece which would be of like dimensions to the channel formed as above described, without the advantage of cutting down the noise of screen movement and the friction and wear on the screens, should they be of the structure shown in my drawings. In such a case, the outer wooden strip could be dispensed with altogether, if desired.

As above stated in my former application, there have been shown weatherstripping devices consisting of a single strip on the sash and a single strip on the cap trim.

In this invention there are two weatherstrips mounted on the upper rail of the upper sash. The molding piece 8 having itself a piece of felt 8^a therein, is mounted over the upper sash rail so as to retain another piece of felt 8^b. The felts are adapted to contact with the extension strip on the upper screen when it is down and the lower molding of the lower screen when the screens are in the pocket. The double weatherstripping is done so as to allow for variations in fit of the screens, and the sash, and also to make a more complete weather joint.

Should the cutting of the channel pieces into two parts, one for the window and one for the pocket be not desired, they could be made up in one piece, but this would render it necessary to take off the entire screen de-

vice when repairing or replacing the pulleys, or weights. As shown, the screens may be removed by taking off one outer wooden strip, which is quite a simple operation.

The screens could be held frictionally instead of by weights, but as the result of long study and experiment, I have determined that counterbalancing the screens is the most effective method for overhead pocket windows.

It is desired in the claims that follow to include all mere mechanical changes and alternative structures where the plain words of the claims admit of such construction in the same manner as if said modifications had been mentioned in the above descriptive matter.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a pocket window, the combination with a sliding sash for the window, metal screen guides, each guide mounted in a position for its inner wall to serve as the outer guide strip for the sash, guide strips for the sash on its other side, said screen guides being of no greater depth than the sash guide strips, for the purpose described.

2. In a pocket window, screen guides for sliding window screens into the pocket thereof, and counterbalance pulleys secured to the guides, and adapted to be set into and removed from the window pocket together with the screen guides.

3. In a pocket window, a channel bar running the length of the pocket thereof, the base of said channel cut away adjacent the top of the bar, a pulley housing mounted on the channel bar and extending into a weight pocket, and a pulley in said housing for the reception of a counterbalance cord.

4. In a pocket window, a channel bar running the length of the pocket thereof, the base of said channel cut away adjacent the top of the bar, a pulley housing mounted inside the channel and extending through the base thereof, and a pulley in said housing for the reception of a counterbalance cord, said bar being adapted to demountably engage the upper end of the pocket, and means for securing the lower end of the bar in position from beneath the pocket.

5. In a pocket window, the combination of the sash weight pocket having front and back boards, and the side facing of the window frame and pocket, said front and back boards cut to form with the side facing a narrow pocket, and a narrow screen counterbalancing weight set to slide in said narrow pocket, for the purpose described.

6. In a pocket window, the combination with a pair of sliding screens, of a double width channel guide for said screens running into the window pocket, and a stop for the upper screen adapted to prevent the

upper screen from being lowered below the center of the window, said stop being movable to release the same.

7. In a pocket window, the combination with a pair of sliding screens, of a double width channel device for said screens running into the window pocket, and a stop in the channel for holding the lower screen molding in the inner half of the channel when said molding is against the sill.

8. In a pocket window, screens therefor having metal moldings, counterbalancing weights and cords for the screens, and means for guiding said screens through the window frame and into the pocket, said screens having attaching means for the cords comprising pins set into cuts in the upper moldings of the screens.

9. In a pocket window, a pair of screens therefor, means for guiding the same through the window opening and the pocket, and counterbalancing weights for the screens, one weight for each screen and set one in each sash weight pocket, whereby the screens can be counterbalanced without departing from standard construction.

10. In a pocket window, the combination with a sash to slide up into the pocket, and normally located with its upper rail in the mouth of the pocket, a screen for the sash, said screen mounted so as to slide up into the pocket, and a plurality of weatherstrip portions on said upper end of the sash extending across, one above the other, the same being positioned so as to contact with the upper end of the screen when in normal position.

11. In a pocket window, the combination with a sash to slide up into the pocket, and normally located with its upper rail in the mouth of the pocket, a screen for the sash, said screen mounted so as to slide up into the pocket, and a plurality of weatherstrip por-

tions on said upper end of the sash extending across, one above the other, the same being positioned so as to contact with the lower end of the screen when up in the pocket.

12. In a pocket window, screens slidable through the window, counterbalance cords for the screens, and means for attaching the cords to the screens comprising pins set into cuts in the upper moldings of the screens and engaging the cords within the said cuts.

13. In a pocket window, the combination with screen guides and screens thereon, adapted to slide into the pocket, of a catch for holding the screens in the pocket and adapted to swing into the path of the screens, and means for mounting and supporting said catch comprising a strip on the window located adjacent the cap trim, and pivoting means between said strip and cap trim to hold the catch between said members.

14. In a pocket window, the combination of the sash weight pocket having front and back boards, and the side facing of the window frame and pocket, said front and back boards cut to form with the side facing a narrow pocket, and a narrow screen counterbalancing weight set to slide in said narrow pocket, said boards cut away at the bottom of said narrow pocket to permit removal of the weight, for the purpose described.

15. In a pocket window, the combination of the sash weight pocket having front and back boards, and the side facing of the window frame and pocket, said front and back boards cut to form with the side facing a narrow pocket, and a narrow screen counterbalancing weight set to slide in said narrow pocket, said boards cut away at the bottom of said narrow pocket to permit removal of the weight, said screen weight having a finger hole thereon, for the purpose described.

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