

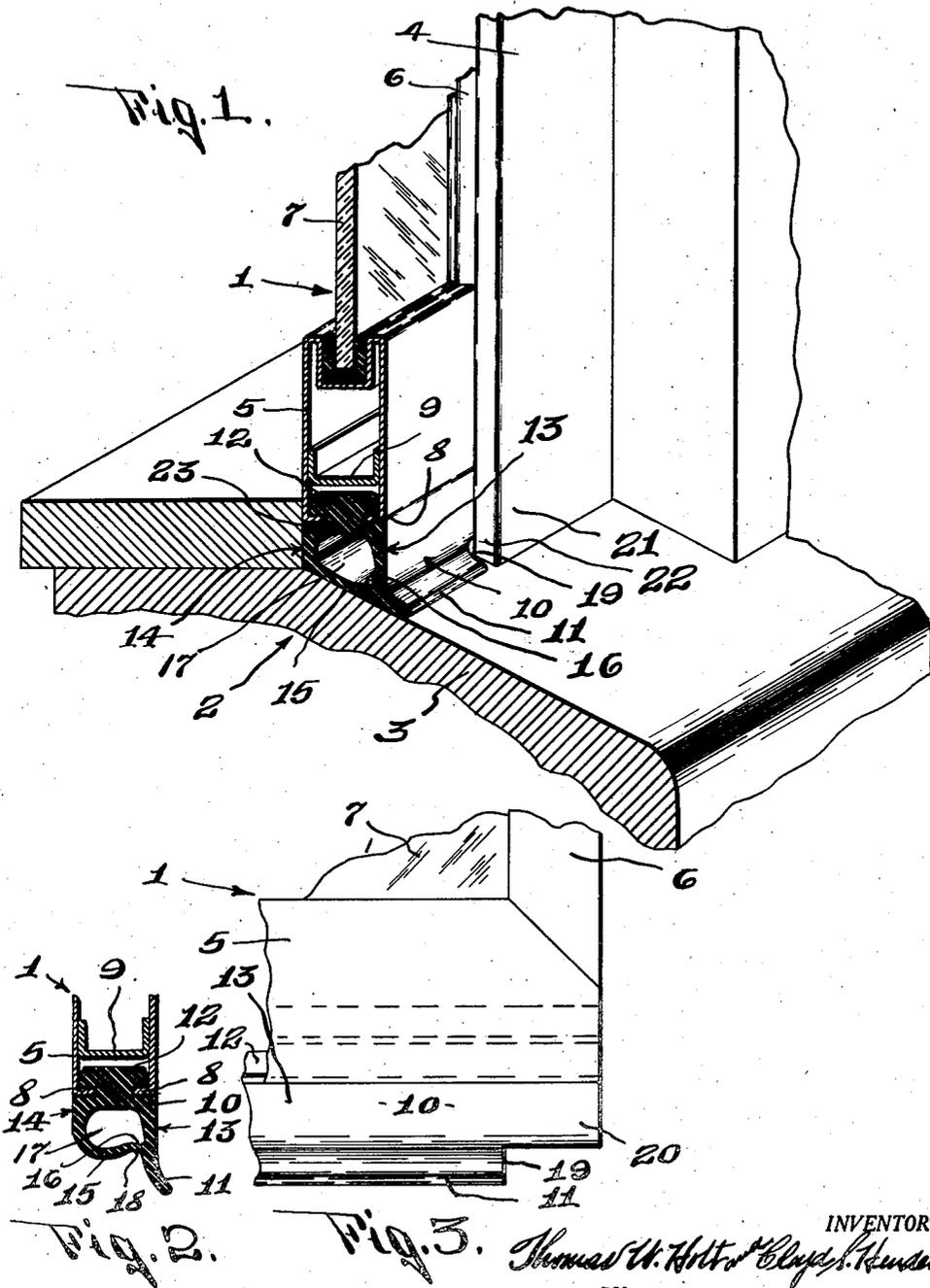
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T. W. HOLT ET AL

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BUFFER FOR THE BOTTOM RAILS OF SASHES

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# UNITED STATES PATENT OFFICE

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## BUFFER FOR THE BOTTOM RAILS OF SASHES

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This invention relates to window sashes and guides therefor and has for its object a particularly simple, economical and efficient buffer for the lower edges of the bottom rails or sashes, which buffer readily conforms to sills of different inclines and also to unevennesses of variations in the surface of the sill whether inherent in the sill or produced by dust, cinders etc. accumulating on the sill.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a fragmentary perspective view of a window sash and frame embodying this invention.

Figure 2 is a fragmentary sectional view through the bottom rail.

Figure 3 is a fragmentary elevation of one of the corners of the sash.

This invention comprises generally a buffer comprising a tubular body secured to the lower edge of the bottom rail of the sash, the body being collapsible and having resilient walls particularly having a resilient bottom wall for engaging the sill, the side walls being also flexible and resilient and a lip or flange extending lengthwise of the body at the rear edge of the bottom wall or at the rear lower corner of the body for engaging the sill, the construction being such that the body and the flange conform to sills of various inclines and also readily conform to unevennesses of the surface of the sill, thus making the edge along the bottom rail thereof substantially air tight and weather tight when the sash is closed.

1 designates the sash, and 2, the frame, the frame including the usual sill 3 and sash guides 4 in the form of channels at the opposite sides of the sash, one of such guides being shown in the drawings. The sash may be of any suitable construction and includes the usual top and bottom rails and stiles.

5 designates the bottom rail and 6 one of the stiles.

7 designates the glazing.

The bottom rail is here shown as formed up of sheet metal open at its lower edge and having inturned flanges 8 at its lower edge. It is also shown as provided with an internal brace 9. The sash is formed up of light sheet metal as brass and the braces are utilized to stiffen the bottom rail particularly as it is open at its lower edge. The construction of the sash forms no part of this invention.

10 designates the buffer including a tubular body which is resilient and collapsible and a flexible resilient lip 11 extending lengthwise of the body and offset from the central vertical plane thereof so that the body and the lip are in general form Q-shaped in cross section. The body and lip are usually formed of rubber and normally forms an extension of the outer rear wall of the body. The body is rigidly secured to the lower edge of the bottom rail by suitable means here shown as a base 12 formed integral with the body and extending into the lower open edge of the bottom rail and interlocked with the bottom rail by means of the inturned flanges 8 which extend into grooves in the base 12.

Although the tubular body may be circular in general form, it is here shown as provided with normally flat outer and inner sides 13 and 14 flush with the outer and inner faces of the bottom rail and with a downwardly bulging bottom wall 15 which turns upwardly and then downwardly at 16 where it joins the flange 11 and the upright wall 13. This bottom wall 15 is resilient and flexible and also the outer, and inner walls 13, 14 are flexible. The passage 17 of the tubular body, although it may be circular, is, in order to bring out to the highest degree the conformity of the buffer to the different inclines of the sills and the variations or unevennesses of the surface thereof formed irregular with a corner portion at 18 where the lip 11 joins the body of the buffer strip, the passage being so formed as to permit the bottom wall 15 to lie flatwise on the sill snugly and conform to the sill and to cause the lip 11 to also lie flatwise on the sill regardless of its incline and variation or unevenness thereof and form an extension of

the bottom wall when compressed against the sill.

The lip 11 terminates at 19 short of the ends of the buffer strip so that the end portions 20 of the body extend into the channels of the window guides 4 behind the outer walls 21 thereof while the lip terminates at the edges 22 of the walls 21. Thus, the tubular body can conform to the walls of the channels of the guides and coact with the lip 11 or the terminal 19 thereof to render the sash weather tight at the corners thereof adjacent the guide.

It is to be understood that it has been particularly difficult to render a sash entirely weather tight at the corners thereof.

In operation, the buffer is normally in the form shown in Figure 2, when the sash is raised with the lip 11 in line with the outer wall 10 of the body of the buffer. When the sash is closed against the sill, the bottom wall 15 collapses or assumes the position shown in Figure 2 snugly fitting against the sill regardless of whether the sill is level or inclined various degrees. Also, the lip snugly engages and presses against the sill. The rear wall of the tubular body also bulges outwardly against the surface 23 of the sill. The end portions of the strip during the collapsing action also conform to the walls of the window guides while the terminal 19 of the lip coacts with the edges 22 of the guide to further render the sash weather tight when closed.

What we claim is:

1. The combination with a sash and window frame having a sill, of a buffer strip extending along the lower edge of the bottom rail of the sash, said strip comprising a tubular flexible and collapsible member having a flexible resilient lip extending from the outer lower corner thereof.

2. The combination with a sash and window frame having a sill, of a buffer strip extending along the lower edge of the bottom rail of the sash, said strip comprising a tubular flexible and collapsible body having a flexible resilient lip extending from the outer lower corner thereof normally forming an extension of the outer upright wall of the body and movable as the body and the lip compress against the sill in a position where it forms an extension of the bottom wall of the body.

3. The combination with a sash and window frame having a sill, of a buffer strip extending along the lower edge of the bottom rail of the sash comprising a collapsible resilient tubular body having a base for rigid attachment to the bottom rail of the sash, and a lengthwise lip extending along the lower outer corner of the body and normally forming an extension of an upright side of the body.

4. The combination with a sash and win-

dow frame having a sill, of a buffer strip extending along the lower edge of the bottom rail of the sash comprising a resilient tubular body having a base for rigid attachment to the bottom rail of the sash, the body having a resilient lip extending lengthwise thereof for engaging the sill, the body with the lip being Q-shape in general form in cross section.

5. The combination with a sash and window frame having a sill, of a buffer strip extending along the lower edge of the bottom rail of the sash comprising a tubular collapsible body having a yielding bottom wall for engaging the sill and a flexible resilient lip extending lengthwise of the body at the rear edge of the bottom wall and normally forming an extension of the rear upright wall of the tubular body and movable into position to form an extension of the bottom wall as the buffer and lip compress against the sill.

6. The combination with a sash and window frame having a sill and sash guides in the form of channels, of a buffer strip extending along the lower edge of the bottom rail of the sash, said strip comprising a tubular flexible and collapsible member having a flexible resilient lip extending from the outer lower corner thereof, said lip terminating short of the ends of the body whereby the ends thereof are adjacent the inner edges of the outer walls of the window guides and the end portions of the body without the lip extend into the channels.

7. The combination with a sash and window frame having a sill and sash guides in the form of channels, of a buffer strip extending along the lower edge of the bottom rail of the sash, said strip comprising a tubular flexible and collapsible member having a flexible and resilient lip extending from the outer lower corner thereof normally forming an extension of the outer upright wall of the body, said lip terminating short of the ends of the body whereby the ends thereof are adjacent the inner edges of the outer walls of the window guides and the end portions of the body without the lip extend into the channels.

8. The combination with a sash and window frame having a sill and sash guides in the form of channels, of a buffer strip extending along the lower edge of the bottom rail of the sash comprising a resilient tubular body having a base for rigid attachment to the bottom rail of the sash, the body having a resilient lip extending lengthwise thereof for engaging the sill, the body with the lip being Q-shape in general form in cross section, said lip terminating short of the ends of the body whereby the ends thereof are adjacent the inner edges of the outer walls of the window guides, and the end portions of the body without the lip extend into the channels.

In testimony whereof, we have hereunto 130

signed our names at Elkhart, in the county of Elkhart, and State of Indiana, this 24th day of May, 1930, and at Syracuse, in the county of Onondaga, and State of New York, this 22nd day of May, 1930.

5        THOMAS W. HOLT.  
         CLOYD S. HENDERSON.

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