A. BILLINGS.

WINDOW PANE FASTENER.

APPLICATION FILED SEPT. 10, 1907.

901,148. Patented Oct. 13, 1908.

Fig-1.

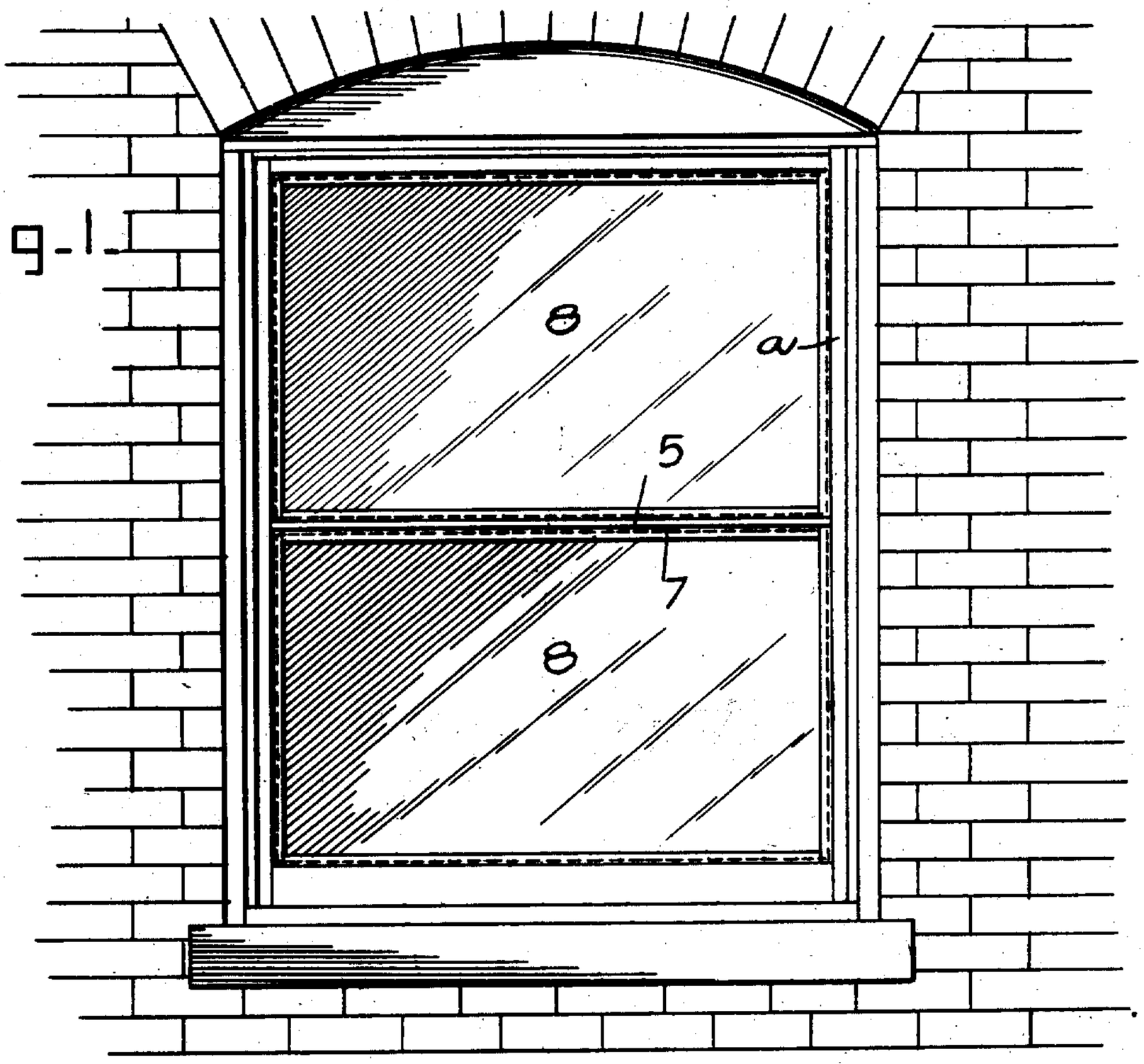



Fig-3.

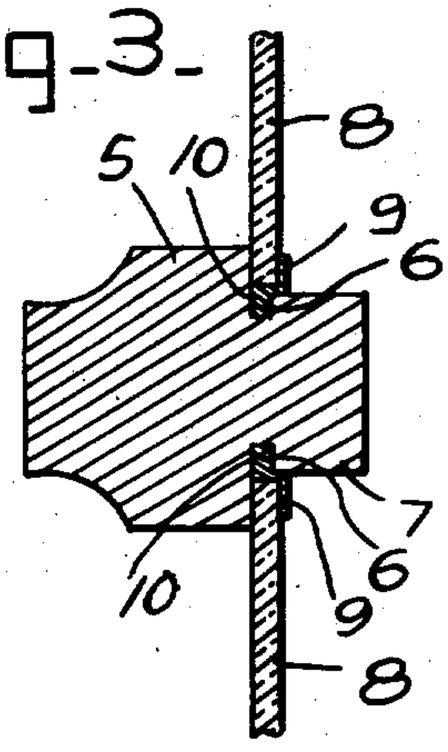



Fig-4.

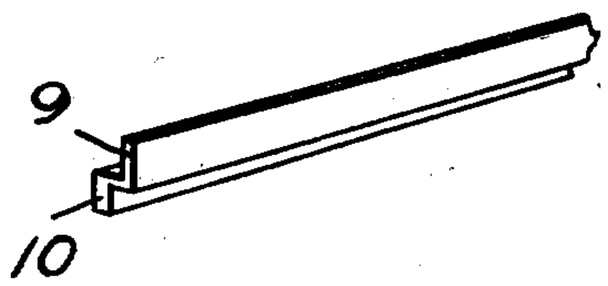
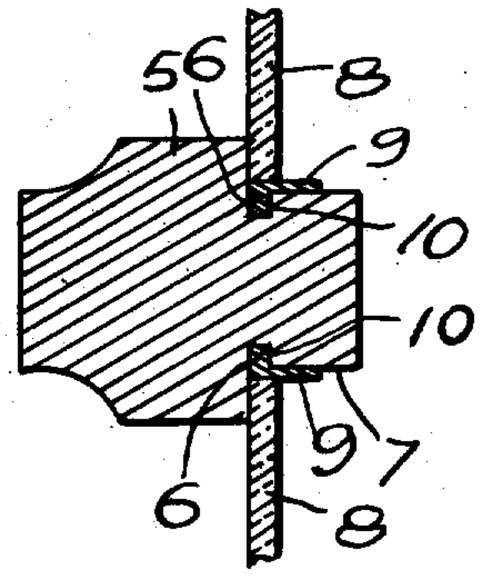



Fig-2.




Witnesses

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# UNITED STATES PATENT OFFICE.

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## WINDOW-PANE FASTENER.

No. 901,148. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed September 10, 1907. Serial No. 392,199.

*To all whom it may concern:*

Be it known that I, ANDREW BILLINGS, a citizen of the United States, residing at Cudahy, in the county of Milwaukee, State of Wisconsin, have invented certain new and useful Improvements in Window-Pane Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to window pane fasteners and has for its object to provide a fastening of such character that the use of putty will be obviated and also to provide an exceedingly simple device of this character and one which will cost little if any more than the ordinary putty now in use.

I have conceived the idea of providing, in connection with a grooved sash element, a locking strip which is made from soft metal such as lead, which is seated in the groove and then bent to lie against the edge of the pane of glass thereby holding the pane in place. This strip being formed of soft metal, permits of the pane being removed at any time, although while the pane is in place it will be securely held.

In the accompanying drawings, Figure 1 is a front elevation of a window showing the application of my invention thereto, Fig. 2 is a detail vertical sectional view through one of the sash elements showing the strip prior to the time of bending, Fig. 3 is a similar view but showing the strip after having been bent, Fig. 4 is a detail perspective view of a portion of the strip.

In the drawings the sash as an entirety is indicated by the reference character *a* in Fig. 1 and in the remaining figures of the drawings, one element of the sash, which is preferably the mid-rail thereof, is shown and indicated by the reference numeral 5. This sash element is of the ordinary construction with the exception that grooves 6 are formed in the walls 7 of its two rabbets, these grooves being of less width than the thickness of the panes of glass which are indicated by the numeral 8.

The pane fastening or locking device which is embodied in my invention is in the form of an L-shaped strip which is preferably formed from soft lead although it may be found expedient under some conditions to use other soft metal and the strip includes a portion 9 and a portion 10, this latter portion being of less width than the portion 9, but of greater thickness and in fact being of a thickness equal to the width of the respective groove 6 and of a width equal to the depth of said groove. In securing the pane of glass in place, the portion 10 of the strip is inserted in the groove with the portion 9 lying flat against the wall 7 of the rabbet. The pane is then placed in position with one of its edges resting against the said portion 9. The outer edge portion of this portion 9 is then bent at right-angles, as is clearly shown in Fig. 3, so as to bear against the pane 8 and hold it securely in place.

It will be understood from the foregoing that by reason of the fact that the pane is of a thickness greater than the width of the respective groove the portion 9 of the locking strip, when bent as stated above, will produce a locking strip which is substantially Z-shaped.

It will further be understood that should it at any time become necessary to remove the pane of glass it is only required that the right-angularly bent portion of the portion 9 of the locking strip be bent out of engagement with the said pane of glass.

What is claimed, is,

1. The combination of a window-sash provided with a continuous rabbet; a pane of glass having its inner face disposed directly against one wall of the rabbet, the other wall of which has a continuous longitudinal groove formed therein; and a metal locking strip bent longitudinally upon itself to provide offset inner and outer portions and a central portion connecting the first-mentioned portions, the inner portion of the strip being inserted in said groove, and the outer portion thereof bearing directly against the outer face of the glass, the portion of the strip connecting said inner and outer portions being disposed against the edge face of the glass.

2. The combination of a window-sash provided with a continuous rabbet; a pane of glass having its inner face disposed directly against one wall of the rabbet, the other wall of which has a continuous longitudinal groove formed therein; and a metal locking strip bent longitudinally upon itself to provide inner and outer offset portions arranged parallel with each other, and a central portion connecting the first-mentioned portions, the inner portion of the strip being inserted in said groove, and the outer por-

tion thereof bearing directly against the outer face of the glass, the central portion of said strip being disposed against the edge face of the glass, and extending the whole width of said edge face.

3. The combination, of a window-sash provided with a continuous rabbet; a pane of glass having its inner face disposed directly against one wall of the rabbet, the outer wall of which has a continuous longitudinal groove formed therein, the inner wall of the groove coinciding with the first-mentioned wall of the rabbet; and a metal locking strip bent longitudinally upon itself, to provide offset inner and outer portions, and a central portion connecting the first-mentioned portions, the inner portion of the strip being inserted in said groove, and the outer portion thereof bearing directly against the outer face of the glass, the entire edge face of the glass fitting directly against the connecting portion of said strip.

4. The combination of a window-sash provided with a continuous rabbet; a pane of glass having its inner face disposed directly against one wall of the rabbet, the other wall of which has a continuous longitudinal groove formed therein, the inner wall of the groove coinciding with the first-mentioned wall of the rabbet, the width of said groove being less than the thickness of the glass; and a soft metal locking strip bent longitudinally upon itself, to provide offset inner and outer portions and a central portion connecting the first-mentioned portions, the inner portion of the strip having a thickness equal to the width of said groove and being inserted therein, and the outer portion thereof bearing directly against the outer face of the glass, the entire edge face of the glass fitting directly against the connecting portion of said strip, said connecting portion having a thickness equal to that of the outer portion, to permit the glass to be removed from the sash when said outer portion is bent backwards against the grooved wall of the rabbet.

5. The combination, with a window-sash provided with a rabbet having its walls lying, respectively, opposite the edge face and the inner face of a pane of glass, the wall of the rabbet that lies opposite said edge face having a longitudinal groove formed therein directly adjacent to the other wall of the rabbet; a pane of glass disposed in the sash, with its edge face overlying the groove; and a lock-plate engaged in the groove and extending outwardly between the edge face of the glass and that wall of the rabbet in which said groove is formed, and then upwardly against the outer face of the glass.

In testimony whereof, I affix my signature, in presence of two witnesses.

ANDREW BILLINGS.

Witnesses:
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G. H. WIPPLER.