

(No Model.)

2 Sheets—Sheet 1.

P. E. GLASFCKE.
WINDOW.

No. 507,653.

Patented Oct. 31, 1893.

Fig. 1.

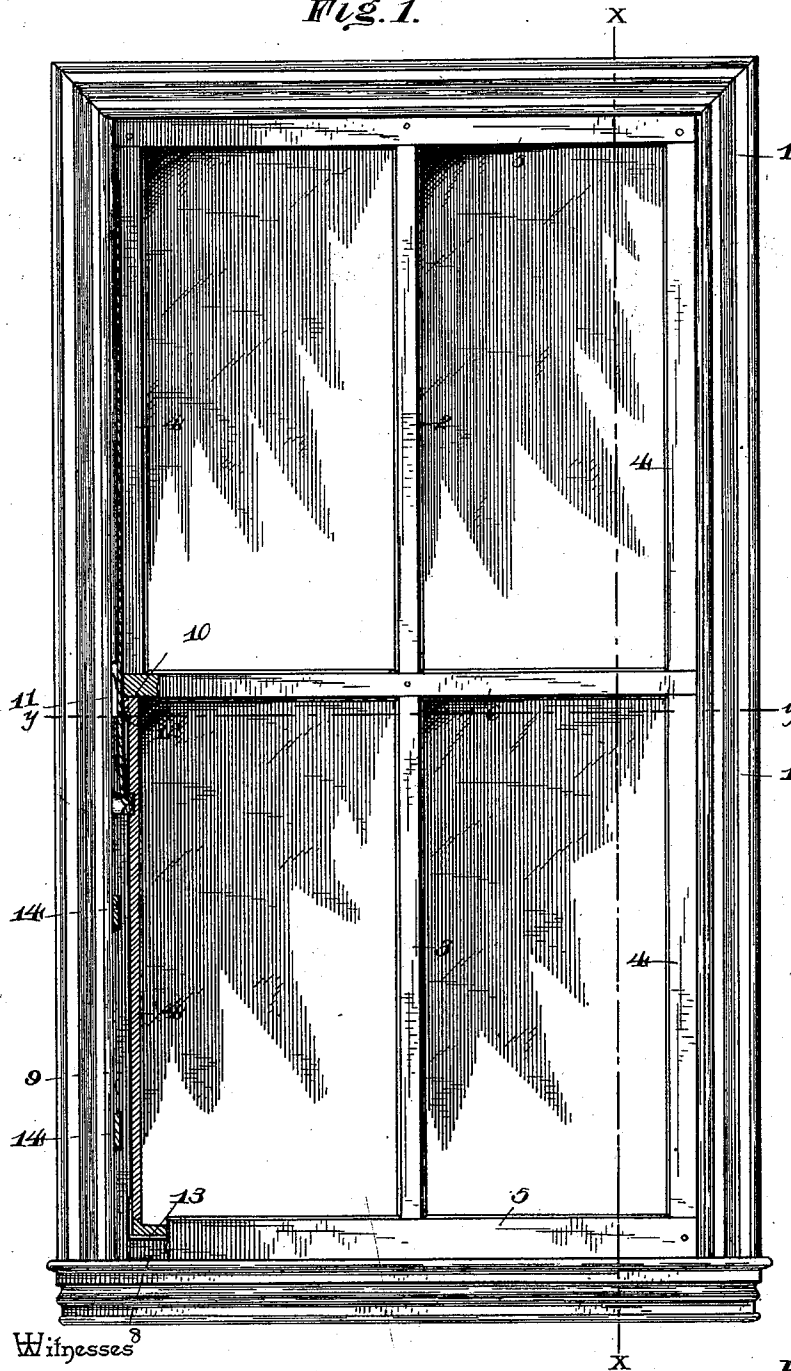
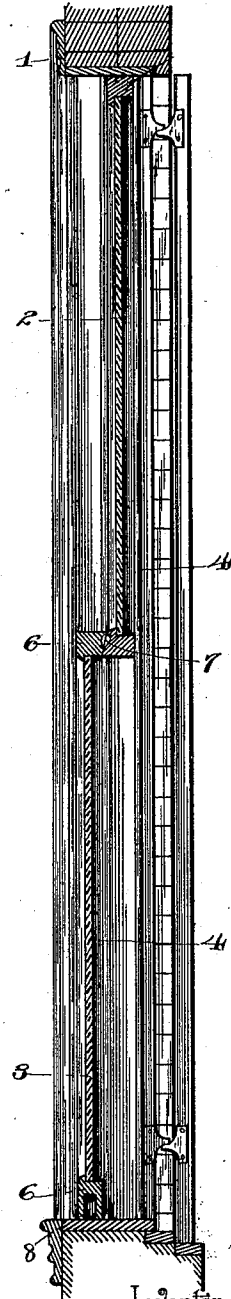


Fig. 3.



Witnesses

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B. A. Wood

By his Attorneys,

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Inventor
Paul E. Glasfcke.

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2 Sheets—Sheet 2.

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Fig. 2.

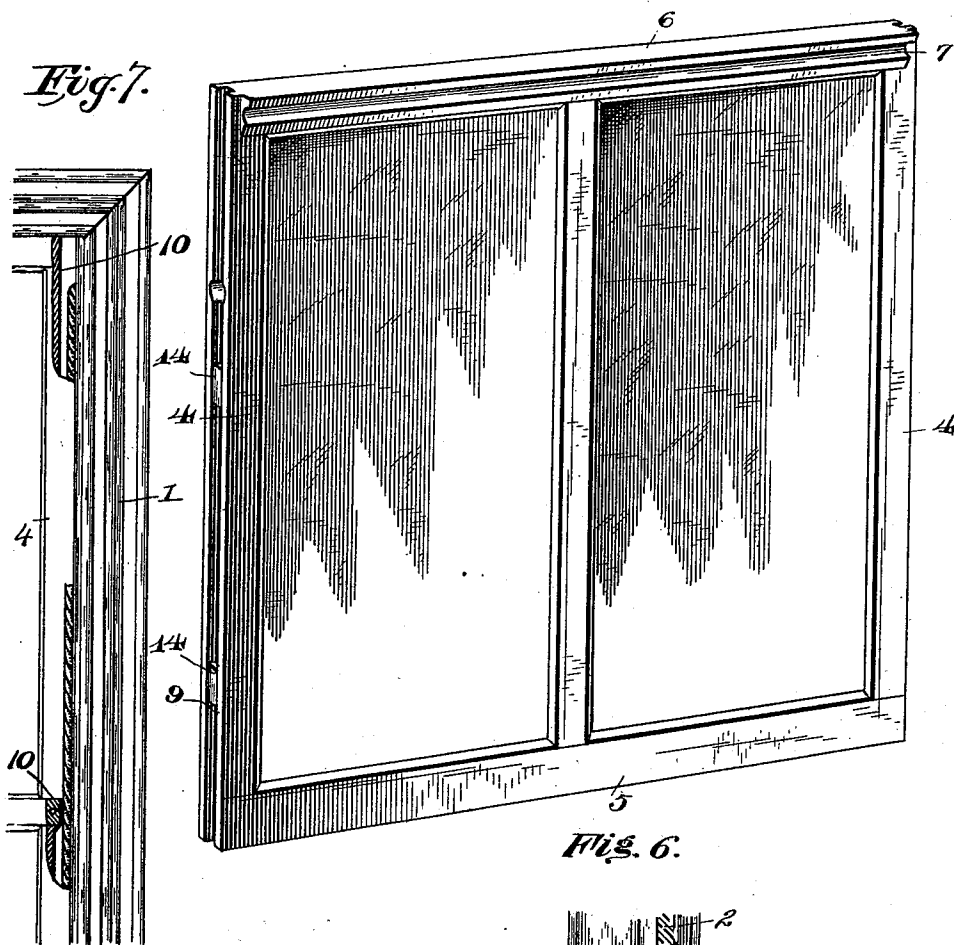
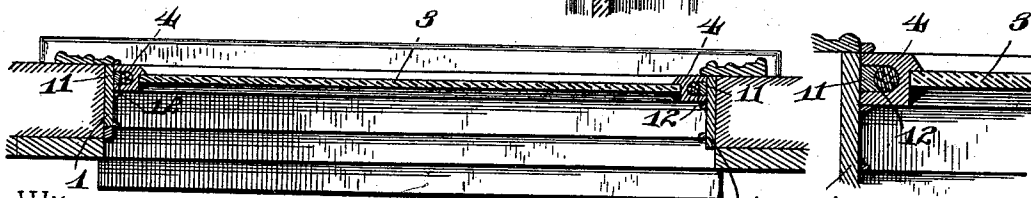
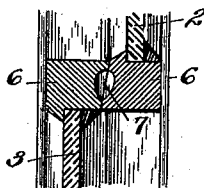


Fig. 6.



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UNITED STATES PATENT OFFICE.

PAUL EMERSON GLAFCKE, OF CHEYENNE, WYOMING, ASSIGNOR OF ONE-HALF TO ANDREW GILCHRIST, OF SAME PLACE.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 507,653, dated October 31, 1893.

Application filed January 21, 1893. Serial No. 459,176. (No model.)

To all whom it may concern:

Be it known that I, PAUL EMERSON GLAFCKE, a citizen of the United States, residing at Cheyenne, in the county of Laramie and State of Wyoming, have invented a new and useful Window, of which the following is a specification.

My invention relates to improvements in window-sashes for buildings and railway coaches.

Heretofore considerable objection has arisen and disadvantages been experienced by travelers in coaches and dwellers in houses by reason of the fact that dust and cinders would work their way through the crevices between the edges of the window-jamb and the sash and between the meeting rails of the sashes. To overcome this and attempt to render the windows dust-proof, attention is called to the double windows usually employed in palace-cars. By noticing these, however, it will be seen that the dust and cinders settle between the sashes upon the sill. The reason for this is apparent in that the air being in motion upon the exterior of the car forces the dust in through the crevices between the outer window-sashes and the jamb or casing, after which the dust encounters air that is practically at rest, that is, inclosed between the inner and outer sashes so that the dust falls and settles on the sill and meeting rails. Also various means have been provided for excluding cold and dust, such as what are commonly termed "weather-strips," &c., but there was always necessarily a crevice, and while the employment of these devices did in a measure overcome the objection yet they rendered the raising and lowering of the window difficult, and there was always more or less crevice and therefore more or less admission of dust and cinders. Therefore the objects of my invention are to provide a construction of window-sash for buildings and railway-coaches which is practically dust and cold-proof; which is practical and economical; to adapt said means for application to the ordinary sash now in use and also to prevent interfering with the ordinary spring-balances or sash-ropes that may be employed.

With these objects in view the invention consists in certain features of construction

hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is an elevation of a window constructed in accordance with my invention, the sash being partly broken away at its edges. Fig. 2 is a perspective view of a sash. Fig. 3 is a vertical longitudinal section on the line $x-x$ of Fig. 1. Fig. 4 is a transverse section on the line $y-y$ of Fig. 1. Fig. 5 is an enlarged detail of one end of Fig. 4. Fig. 6 is an enlarged section through the meeting rails of the sash. Fig. 7 is an elevation and partial sectional view of the upper right hand corner of the window.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates an ordinary window-casing or jamb, and in the same is located the upper sash 2 and lower sash 3. Each of the sashes consists as is usual of the side-rails 4, end-rails 5, and meeting-rails 6, said rails surrounding the panes of glass as is usual. The meeting-rails, as is usual, have their meeting or inner faces beveled so as to overlap, that is the upper rail of the lower sash overlaps the lower rail of the upper sash, and each of these rails has its inner face provided with a longitudinal groove 7. The grooves 7 are somewhat of a semi-pear shape so that when the two rails come together in alignment they provide or constitute a passage extending transversely across the entire window and of a general pear-shape in cross-section (see Figs. 2 and 6.)

The outer end rails 5 of the two sashes are provided upon their outer edges with longitudinally-disposed grooves or channels 8 which extend throughout the length thereof. The side rails 4 of the sashes are provided at their outer edges with grooves 9 which are continuations of the grooves 8 in the end-rails.

The grooves in the sashes are so deep as to permit of any necessary trimming or planing off of the sashes for the purpose of fitting them to the window-casing without impairing the efficiency of the grooves as will be hereinafter explained.

The grooves 9 that are formed in the side rails of the sashes adjacent to the meeting-rails and also toward the upper ends of the side-rails of the upper sash 2, are slightly re-

duced or provided with off-sets or shoulders 10, which off-sets or shoulders are not as deep as the grooves and hence do not entirely close the bottom of the same so as to leave room for the sash rope.

Small blocks 11 having their inner faces provided with shallow grooves 12 are secured to the jamb 1 opposite the upper end of the lower sash 3 when lowered and the lower end of the upper sash 2 when elevated so that, as will be obvious, these blocks will completely close the grooves in the side-rails of the upper sash at their bottoms and likewise close the grooves in the side rails 4 of the lower sash at their tops in that they are located directly opposite the aforesaid shoulders 10 and being provided with shallow grooves the blocks 11 will permit of the passage of the sash-ropes. It will be seen, however, that the said grooves are closed when the lower sash is lowered and the upper sash raised, yet they will be open when the lower sash is slightly elevated so that the shoulders and blocks do not align.

It is preferable that metal angle-plates 13 be located within the grooves 8 and 9 of the lower sash at their meeting points, as shown in Fig. 1, and furthermore I prefer that the walls of the grooves 8 and 9 may be strengthened by the interposition at suitable points of filling-blocks 14, which it will be understood are too small to completely fill the grooves, but to the contrary merely partially fill them.

Of course it will be understood that in windows for railway coaches the upper sash being stationary and not subjected to frequent raising and lowering, may be suitably packed against the admission of dust.

My invention operates upon the same principle as the double windows in railway coaches, in that it will be seen that the grooves constitute dead air spaces and confine a body of air which is practically at rest, and the dust and cinders being forced through the crevices between the outer edges of the grooves and the window-jamb will meet with this body of air practically at rest, and thus settle within the groove and not attempt to pass beyond the same into the compartment or car. In this manner the ingress of the dust will be arrested at the grooves and the dust will become stored therein to be afterward removed in any manner desired. I have, however, devised means for conveniently removing the dust, and these means consist in the provision of the blocks 11, which I have described before. It will be seen that as mentioned, the lower ends of the grooves in the side-rails of the upper sash and the upper ends of the grooves in the side rails of the lower sash are closed by said blocks. Therefore when the lower sash is slightly raised or the upper sash slightly lowered they are no longer closed and a current of air is directed therethrough, and hence the dust blown out from the grooves in a manner that will be ob-

vious. It will also be seen that as soon as the meeting edges of the two rails are spread the general contour of the grooves existing between the same is such as to readily permit of the dust falling therefrom. It will be seen that these grooves have a general semi-pear-shape so that the dust may readily fall therefrom and if desired may be aided by the use of a brush for this purpose.

It will be seen that my invention may be placed upon the market complete, that is, with the sashes and frame adjusted, the grooves formed in the sashes, and the blocks set in the frames ready to be operated in the grooves; or, on the other hand, my invention may be applied to those sashes now in use at a very slight expense and with little labor; and furthermore that the formation of the groove will not interfere in the slightest with the operation of the ropes, spring-balances, or other means that may be employed for supporting the sashes.

It is to be understood that changes in the form, proportion, and the minor details of construction as are embraced in the terms of the appended claims may be resorted to without departing from the principles or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a window-frame, of a window-sash, and a groove between the rails of each sash and frame, said grooves being closed at their meeting ends so as to form a dead-air space, substantially as specified.

2. The combination with a window-frame, of a sash located therein and having its side rails provided at their outer edges with longitudinal grooves temporarily closed at their opposite ends, substantially as specified.

3. The combination with a window-frame, of a sliding sash having one of its edges provided with a dust-receiving groove decreasing in depth at one end, and a block located opposite said end and secured to the frame, substantially as specified.

4. The combination with a frame and upper and lower sashes, the meeting rails of said sashes being provided upon their adjacent faces with registering open dust receiving grooves, closed at their ends by the frame substantially as specified.

5. The combination with the frame of the upper and lower sashes, the meeting rails of which are provided upon their inner faces with registering longitudinal grooves, the side-rails of which upon their outer edges are grooved, and the end rails of which are grooved upon their outer edges, substantially as specified.

6. A window-sash having a groove or channel formed in its frame, and filling blocks located at intervals in and wedged between the walls of said groove, substantially as specified.

7. The sash having its side and lower end rails provided upon their outer edges with con-

tinuous communicating grooves or channels and angle-irons seated in the channel at the angles of the grooves, substantially as specified.

5 8. The combination with the window-frame, of the upper and lower sashes having their side-rails grooved, said grooves being provided near their meeting ends with off-sets or shoulders 10, and the grooved-blocks 11 secured to the window-frame opposite said off-

sets and meeting the same, substantially as specified.

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

PAUL EMERSON GLAFCKE.

Witnesses:

J. D. FREEBORN,
HENRY G. HAY.