March 1, 1932. W. S. HAMM 1,847,958

SASH GUIDE

Filed Sept. 16, 1929

Fig. 1.

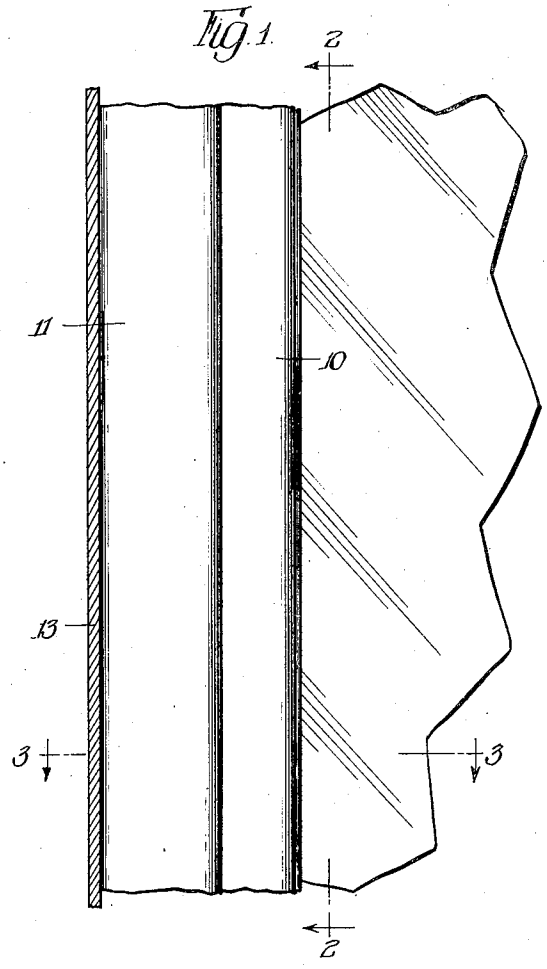


Fig. 2.

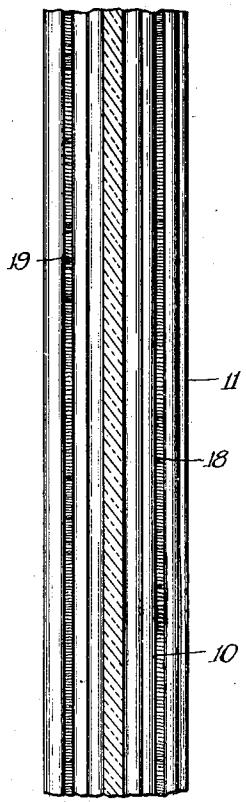
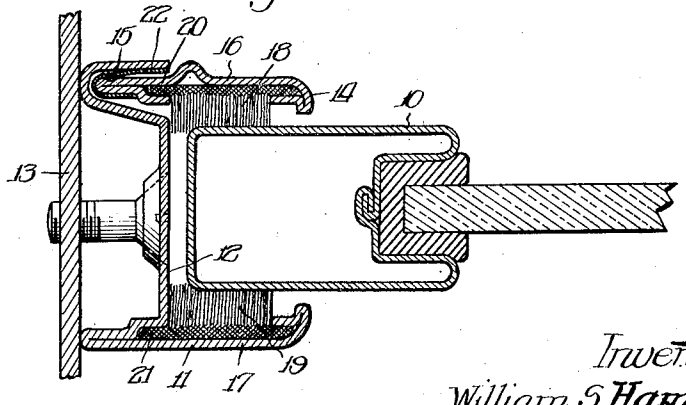


Fig. 3.



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UNITED STATES PATENT OFFICE

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SASH GUIDE

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There is an increasing demand for lighter and cheaper metal window sash for railway cars and motor buses. In endeavoring to meet this demand, however, sash manufacturers have been confronted with certain perplexing problems. An ideal window closure, from the standpoint of weight and expense, would be a single sash made of aluminum, as distinguished from the now widely used double sash made of brass. When double sash are used, one in front of the other, little difficulty is experienced with leakage of air and water between the edges of the sash and the guides, but when only one sash is used, with the purpose of reducing both the weight and the cost, satisfactory weather-proofing becomes a serious problem. Ordinary spring metal weather stripping applied to the sash will not conform sufficiently well to the slight unevennesses originally present or subsequently developing therein, while weather stripping of softer materials such as rubber and felt tend to clog up with cinders and swell with water, with the result that such materials not only soon lose their weather-proofing qualities but interfere with free sliding movement of the sash. Furthermore, if the sash be made of aluminum to further reduce the weight, another difficulty arises by reason of the rapid wearing disintegration of the stiles of the sash which is caused by the sliding engagement had with the guides.

The object of the present invention is to provide a sash guide which will make the use of a single aluminum sash entirely practicable. The novel weather-proofing means employed in association with the guide conforms closely with the sash without in any way interfering with the sliding movement of the latter, is self-cleaning with respect to cinders and other foreign matter entering the same, is not adversely affected by moisture, and presents soft resiliently yielding ways for the sash which prevent the latter from wearing and maintain the metallic portions of the sash in spaced relation at all times to the metallic side-walls of the guide.

While the foregoing statements are indicative in a general way of the nature of the invention, other objects and advantages will be evident upon a full understanding of the construction of the improved guide.

In order that the invention may be readily understood, one embodiment thereof is illustrated in the accompanying drawings and described in the following specification, but it will of course be understood that the invention is capable of being used in other structurally modified forms coming equally within the contemplated scope of the appended claims.

In the drawings:

Fig. 1 is a fragmentary view of a sash and guide assembly constructed in accordance with the invention;

Fig. 2 is a vertical section, taken on the line 2—2 of Fig. 1; and

Fig. 3 is an enlarged horizontal section, taken on the line 3—3 of Fig. 1.

The assembly shown in the drawings includes a sheet metal sash 10 and a sheet metal guide 11. Either the sash or the guide, or both, may advantageously be made of aluminum in order to lighten the same, but a number of the more important objects of the invention will be realized regardless of the particular metal employed.

The guide is in some respects similar to those disclosed in Levan Patents Nos. 1,659,657 and 1,659,658, in that it includes a strip 12 which is adapted to be attached in a more or less permanent fashion to one side of a window frame 13 and a strip 14 which is adapted to be detachably secured by any suitable means to the strip 12. The strip 14 is adapted to seat in a groove 15 formed in one side of the strip 12, and has a portion 16 which projects from the groove in spaced generally parallel relation to a portion 17 of the strip 12. The portions 16 and 17 constitute two spaced side walls between which the sash is adapted to slide up and down.

The distance separating the side walls 16 and 17 is greater than the thickness of the sash, and the sides of the sash are maintained out of contact with the inner faces of the side walls by two strips 18 and 19 of laterally projecting pile material which are attached to the inner faces of the side walls and bear

against the sides of the sash in the direction of projection of the pile. The strips 18 and 19 may be made up of any carpeting fabric which has a close, fairly stiff pile.

While the strips 18 and 19 may be attached to the inner faces of the side walls 16 and 17 of the guide in several different ways, they are shown in the drawings as being held in position by reversely bent portions of the sheet metal entering into the formation of the side walls, which reversely bent portions are clamped against the edges of the fabric backs 20 and 21 of the strips 18 and 19.

The extremities of the side walls 16 and 17 are preferably turned inwardly toward the sash to points just short of the latter, whereby to shield to a certain extent the pile of the strips 18 and 19 from rain, cinders, and the like. The hair-like elements making up the pile are so arranged as to abut more or less perpendicularly with the side faces of the sash, and the inherent resistance of such elements to buckling and flexure results in the strips 18 and 19 bearing in a resiliently yieldable fashion against the side faces of the sash with a certain amount of pressure. To maintain this pressure more or less uniform over a long period of time, during which the pile on the strips 18 and 19 may become crushed in a little by constant engagement and sliding contact with the sash, the removable strip 14 of the guide carrying the strip 18 may be pressed in the direction of projection of the pile by a spring strip 22 which is carried by the strip 14 and acts against the strip 12 within the groove 15.

The strips 18 and 19 permit the sash to be moved up and down very easily in the guide, while preventing any wear upon the sash, thereby making the use of an aluminum sash entirely feasible. Such strips, furthermore, will function with a high degree of efficiency over a long period of time, since the perpendicular disposition of the pile on the strips with respect to the sides of the sash results in the pile being self-cleaning, and any cinders or other foreign matter entering the guide will not become permanently embedded in the pile. Such strips, moreover, will not become swollen from rain, and will provide an effective barrier through which rain, air drafts and cinders cannot pass.

I claim:

1. In sash construction, the combination with a metal sash, of a metal guide for the same having side walls which are spaced apart a distance greater than the thickness of the sash, strips of laterally projecting pile material attached to the inner faces of the side walls of the guide with the pile on the strips in sliding engagement with the sash, and means for placing pressure on the pile in the direction of projection.

2. In a sash construction, the combination with a metal sash, of a guide strip of laterally projecting pile material against which the sash is adapted to slide, and means for pressing the guide strip and the sash together.

3. In sash construction, the combination with a metal sash, of a guide strip of laterally projecting pile material against which the sash is adapted to slide, and spring means for pressing the guide strip toward the sash in the direction of projection of the pile on the strip.

In witness whereof I have hereunto subscribed my name.

WILLIAM S. HAMM.