April 26, 1932. J. BOLLIER 1,855,510

SASH HOLDER

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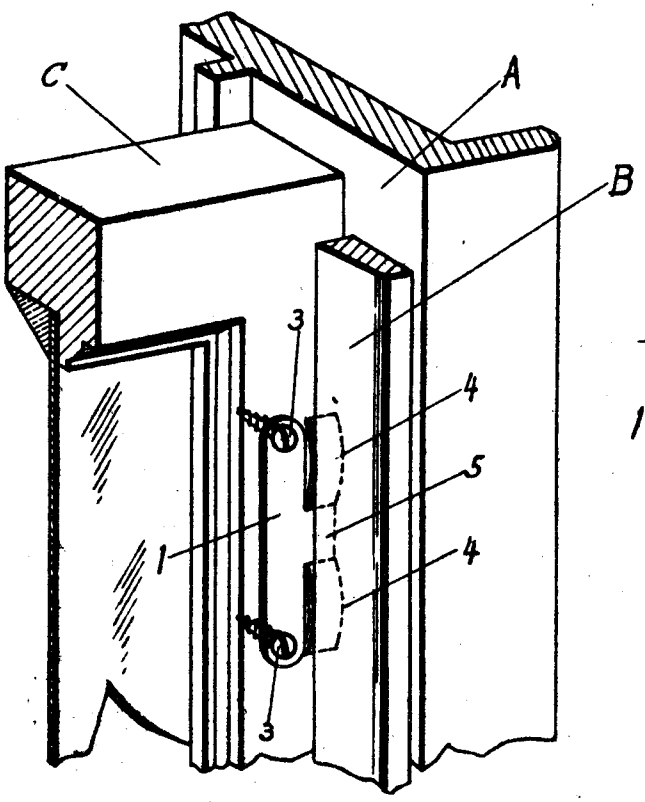


Fig. 1.

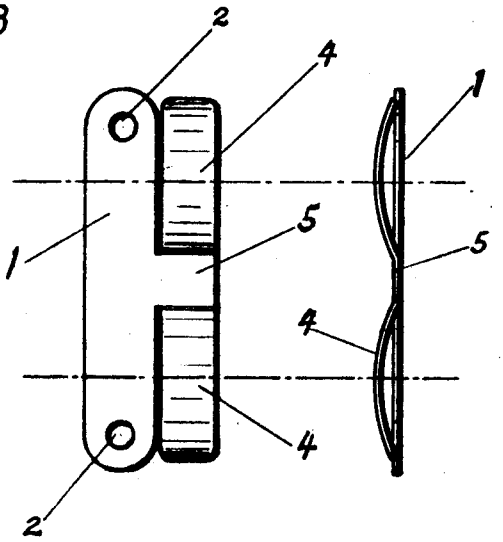


Fig. 2. Fig. 3.

INVENTOR

Jacob Bollier

By

Chas. H. Le Pratt

ATTORNEY

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JACOB BOLLIER, OF PEORIA, ILLINOIS

SASH HOLDER

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This invention has reference to a sash holder; a device which is simple in construction, cheap to manufacture and effective in holding the window sash, whereby to exclude cold air and dust from the room of a dwelling and to prevent rattling of the sash, while at the same time so constructed as to prevent the active and engaging elements of the holder from gouging into the sash stop when the sash is raised or lowered.

That the invention may be more fully understood, reference is had to the accompanying drawings forming part of the description and illustrating a preferred embodiment of the invention, in which:—

Fig. 1 is an elevation, in perspective, showing part of a window sash, window frame casing, sash stop and my invention in sash holders applied to the sash;

Fig. 2 is a plan view of the sash holder, and

Fig. 3 is an edge view of Fig. 2.

Like characters of reference denote corresponding parts throughout the figures.

To a better understanding of the uses of the article I have shown a portion of a window frame casing A, with a sash stop B and a window sash C, adapted to be raised and lowered in said frame. These parts form no part of the present invention, but serve to illustrate the manner and form in which the article may be applied to a window sash C, and how it coacts between sash and stop to prevent slipping of the sash in the frame, and to exclude cold air and dust therebetween and to prevent rattling of the sash; and how the sash holder is prevented from being twisted loose from its position on the sash.

The article itself, is preferably made from a single piece of very thin metal and of whatever character is best suited for the purpose. It may be shaped by cutting, pressing or stamping, or by whatever suitable mechanical means is best suited for the purpose and by preheating, reheating, tempering or annealing, or in any other manner for making the same substantial and parts thereof resilient, as may be required. Furthermore, the article may be plated or coated to give it the surface appearance desired.

In the form shown, the article comprising the holder, which is of a single piece, is composed of an elongated flat attachment portion or strip 1 having openings 2 at each end thereof to receive the screws 3 for fixedly and securely attaching or affixing the article to a sash C, and a retention strip or portion 4 disposed along one side of said attachment strip and united thereto only by an intermediate portion 5 which is integral with and lies in the same plane of the attachment portion 1. The opposite and projecting end portions of the retention strip 4, as shown, are bowed outwardly to form or provide dual sash impinging portions, the free ends of which are pressing and directed to move, at all times, away from the sash stop, as it is believed will be apparent from an examination of Fig. 3.

From the general arrangement shown in Fig. 1 it may be seen that a frictional force comes into play when the sash is being raised and lowered. This force assumes an up and down direction and is transmitted to the screws 3 through the intermediate portion 5 and the elongated flat attachment strip 1. This frictional force imparts a tendency to the sash holder to swing, turn or twist in the plane of the flat attachment strip 1 to the left or right as may be easily visualized if we were to remove, for a moment, either of the screws 3 and move the sash up and down.

In order to prevent effectively, even the very least amount of, such swinging or twisting, and to obtain the most positive and lasting securement of the sash holder and thereby satisfactory functioning of the same, it is necessary that the attachment strip 1 is elongated beyond the length of the intermediate portion 5, along one side of the retention strip 4.

While the sash C is in sliding motion, two opposed moments of forces exist. One striving to hold the sash holder firmly in its position, and the other tending to move it, turn it and twist it. The force of this latter moment does thus tend to swing or turn the sash holder around the upper screw 3 as the sash is being lowered, and around the lower screw 3 as the sash is being raised. The force of the former moment or the anti-twist moment also acts around the centers of the upper and lower screws respectively, but in the opposite di-

rection. Since the moment of a force is equal to the force multiplied by the perpendicular distance from the point of rotation to the direction of the force, it will be seen that the moment of the twisting force that acts on the sash holder is equal to the frictional force mentioned above multiplied by the perpendicular distance from the common center line of the screws 3 to the longitudinal center line of the retention portions 4. Similarly, it is apparent that the anti-twist moment is equal to the safe strength or bearing value of the material into which the screws 3 are driven multiplied by the distance from one screw to the other screw. Ordinarily sash are made from soft wood of very little strength. It becomes important, therefore, that the dimensional factor—the distance between the screws—of the anti-twist moment is as large as a certain predetermined overall length of the sash holder will permit. For reasons of economy this overall length is to be held to a possible minimum with the intermediate portion 5 as short as possible. These two important features are being incorporated in my sash holder by elongating the flat attachment strip 1 along one side of the retention strip 4. Preferably the elongation of the attachment strip is carried to the extent where it becomes possible to have the distance between the screws 3 several times longer than the dimensional factor of the twisting moment, the lateral distance between the common center line of the screws and the longitudinal center line of the retention strip 4.

With this arrangement, effective and unfailing securement of the sash holder is assured with a minimum use of material and a minimum strain on the means for securement.

I am aware that it is not broadly new to provide a sash holder for securement to a sash, but I am not aware that so simple and effective a holder has been provided as that which is defined in the appended claim.

What I claim is:—

As a new article of manufacture, a sash holder made from a single piece of material of substantially H-shape and comprising an elongated flat attachment strip and a retension strip disposed along one side thereof and united thereto only by a substantially centrally located portion integral with the attachment strip and lying in the same plane therewith, said retension strip being bowed outwardly from said central portion to provide a pair of impinging portions the free ends of which impinging portions act to press the window at all times away from the window stop, said central portion being of substantially the same width as and alined with the impinging portions, and said attachment strip having fastener-receiving openings adjacent its ends so as to provide for securement of the fasteners at relatively widely spaced points which are located adjacent the ends of the impinging portions so as to resist loosening of the fasteners upon turning or twisting movement of the impinging portions.

JACOB BOLLIER.