(No Model.)

C. KOENEMANN.

SASH HOLDER.

No. 519,536. Patented May 8, 1894.

Fig. 2.

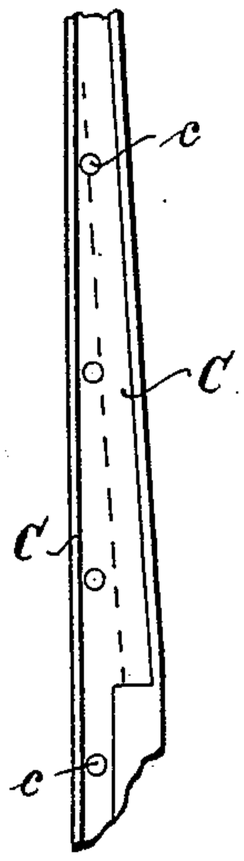


Fig. 1.

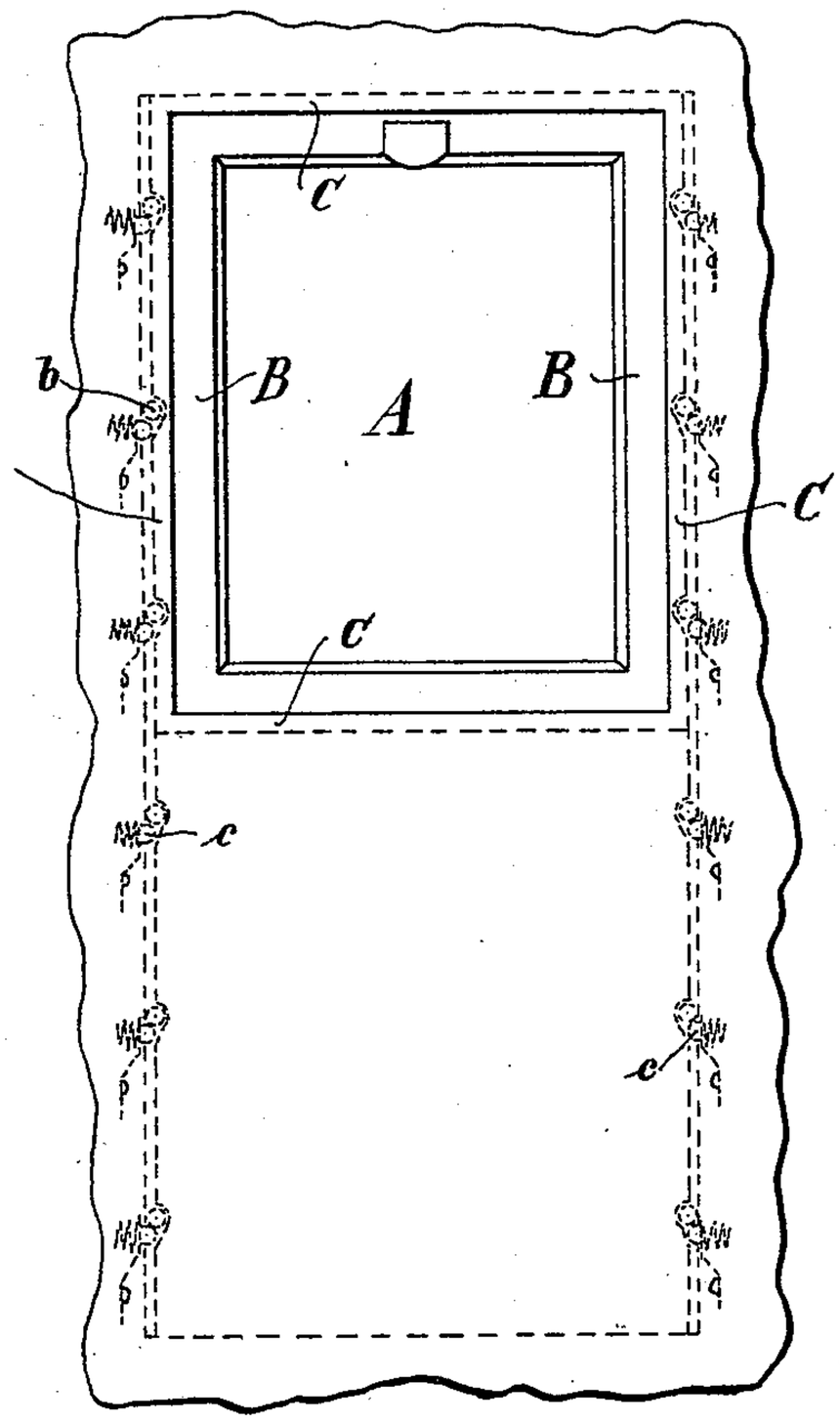
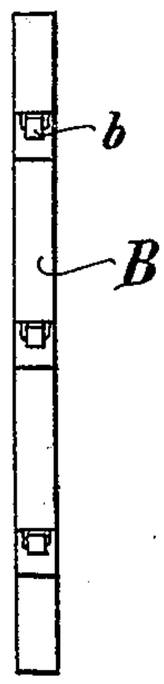
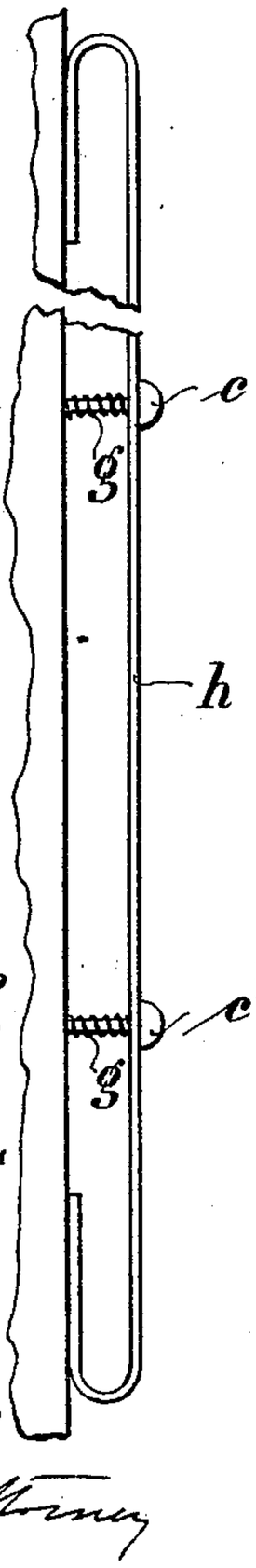


Fig. 3.





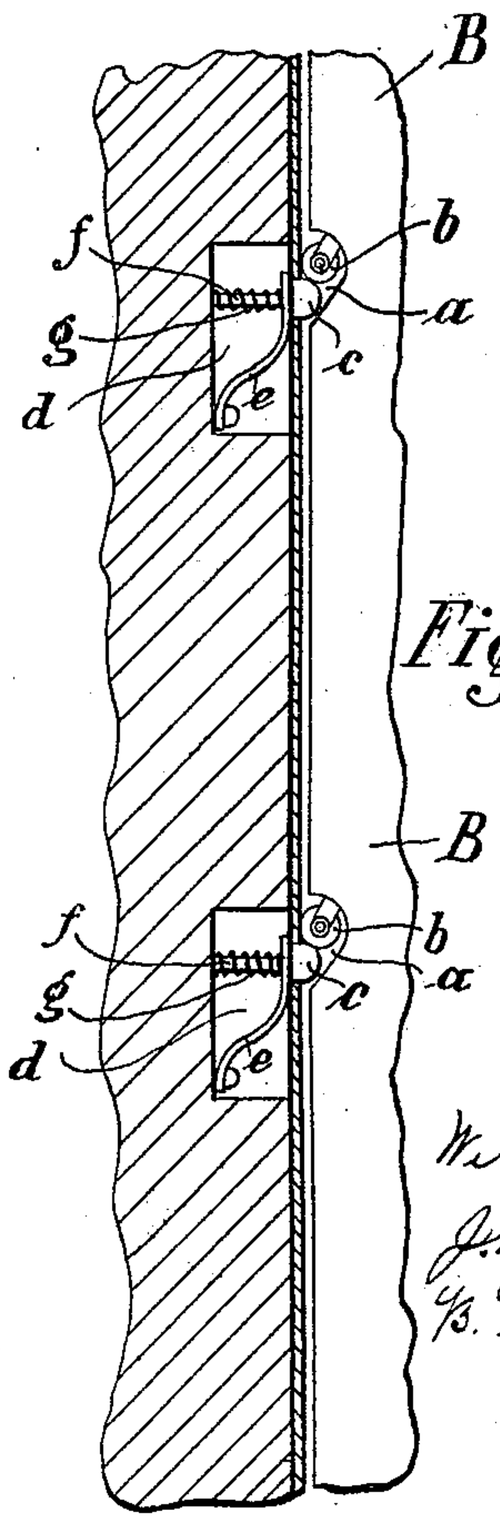


Fig. 4.

Fig. 5.

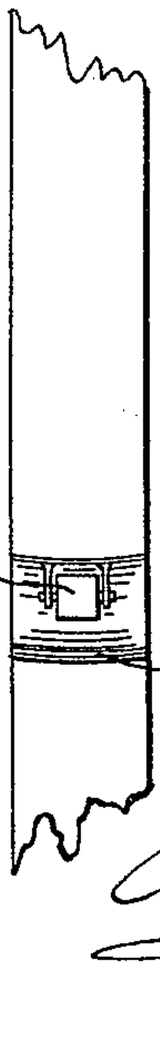


Fig. 6.

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CARL KOENEMANN, OF WIESBADEN, GERMANY.

SASH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 519,536, dated May 8, 1894.

Application filed September 28, 1893. Serial No. 486,691. (No model.) Patented in Germany April 29, 1893, No. 73,019.

To all whom it may concern:

Be it known that I, CARL KOENEMANN, merchant, a subject of the German Emperor, residing at Wiesbaden, Germany, have invented new and useful Improvements in Sash-Holders, (for which Letters Patent have been granted in Germany, No. 73,019, dated April 29, 1893, and provisional Letters Patent applied for in Great Britain, No. 15,449, August 14, 1893,) of which the following is a specification.

This invention has for its object an improved retaining device for the vertically sliding sashes of car windows and the like, whereby the sash can be raised or lowered to any desired height by the exercise of the ordinary pushing or pulling force, and when so adjusted will be automatically held in position.

The improvement consists generally of rollers held, preferably, in recesses in the slide-faces of the window-sash and of springs arranged preferably in recesses in the casing so as to yieldingly engage said rollers and retain the sash as hereinafter described and claimed.

In order that my invention may be fully ascertained, I shall first describe in detail the mode in which I carry it into effect, and then distinctly claim the improvement.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a face view of a window provided with my improvement, when closed. Fig. 2 is a side view of the slide path of the casing of the same. Fig. 3 is a side view of the slide-face of the sash. Fig. 4 is an enlarged front sectional elevation of a part of the casing and sash. Fig. 5 is an enlarged view of part of the slide-face of the sash, and Fig. 6 illustrates a modification of my improvement hereinafter referred to.

Like letters of reference designate corresponding parts in the various figures.

C designates a window casing as ordinarily found in cars, carriages and the like, A the vertically sliding sash and B the sash frame.

In the slide-faces of the sash frame B, I form recesses *a*, within which I mount small horizontal rollers *b* on suitable bearings. The recesses *a* I make of the proper size to receive also hemispherical heads *c* fixed on plate-springs *e* which I secure in recesses *d* formed in the sash-guides of the casing C, so that when the sash is raised or lowered and a recess *a* comes opposite one of the springs *e* the head *c* of said spring will be projected into said recess *a* and thereby engage the roller *b* and support the sash in position. When the sash is to be further raised or lowered, the roller *b* will ride over and automatically retract the rounded head *c* of the spring *e* against the pressure of said spring until the desired adjustment of the sash is obtained, when another recess *a* will be engaged by the head of the spring *e* and the sash likewise supported in that position.

To reinforce the plate springs *e*, I prefer to apply a spiral spring *g* to each spring head *c* on a stem *f* projecting inward from said head in the recess *d* and sliding in an aperture in the bottom of said recess.

With corresponding series of equi-distant springs and rollers in the casing and the sash as shown, several pairs of springs and rollers will act conjointly to support the sash, in which case the springs may be made individually lighter without decreasing the security of the sash.

In Fig. 6, I have shown as one alternative form of my invention, the several heads on a side of the casing fixed on a common plate spring *h* reinforced however by separate spiral springs *g*. In each instance the depth of the recesses *a* should correspond with the projection of the spring heads *c*.

In order to enable the sash when wholly closed to be moved outward to the usual locking position indicated in dotted lines in Fig. 2, the recesses *a* on the sash are continued by grooves *i*, as shown in Fig. 5, on an arc of the circle in which the sash swings. When the sash is in a vertical position however the rollers *b* will be directly in line with the spring-heads *c*.

It will be seen that in all the forms of the invention the springing head *c* is either gripped between or pushed inward by the fixed roller *b* and the outwardly inclined bottom of the recess *a*, according as the sash is to be supported or shifted.

I claim as my invention—

1. The sash-holder herein described con-

sisting of a recess *a* in the sash, having its bottom inclined outwardly, a fixed roller *b* pivoted in the top of the recess *a*, a recess *d* in the frame, a spring fixture in the recess *d*, and a rounded head *c* carried by said spring, to be projected thereby and gripped between the inclined bottom of the recess *a* and the roller *b* therein, to secure the sash, and to be pushed inward by said inclined bottom of the recess *a* and by the fixed roller *b* when force is exerted upon said sash, as herein set forth.

2. The combination, with the casing, the vertically and outwardly movable sash having the recesses *a* and the continuing grooves *i* formed on the arcs of the circles on which the sash swings, rollers *b* in the recesses *a*, and springs held on the sash-guides having curved heads *c* to enter the recesses *a* and move outwardly in grooves *i*, and to engage the rollers *b*, substantially as herein described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL KOENEMANN.

Witnesses:
PAUL DOMINIK,
FRANK H. MASON.