

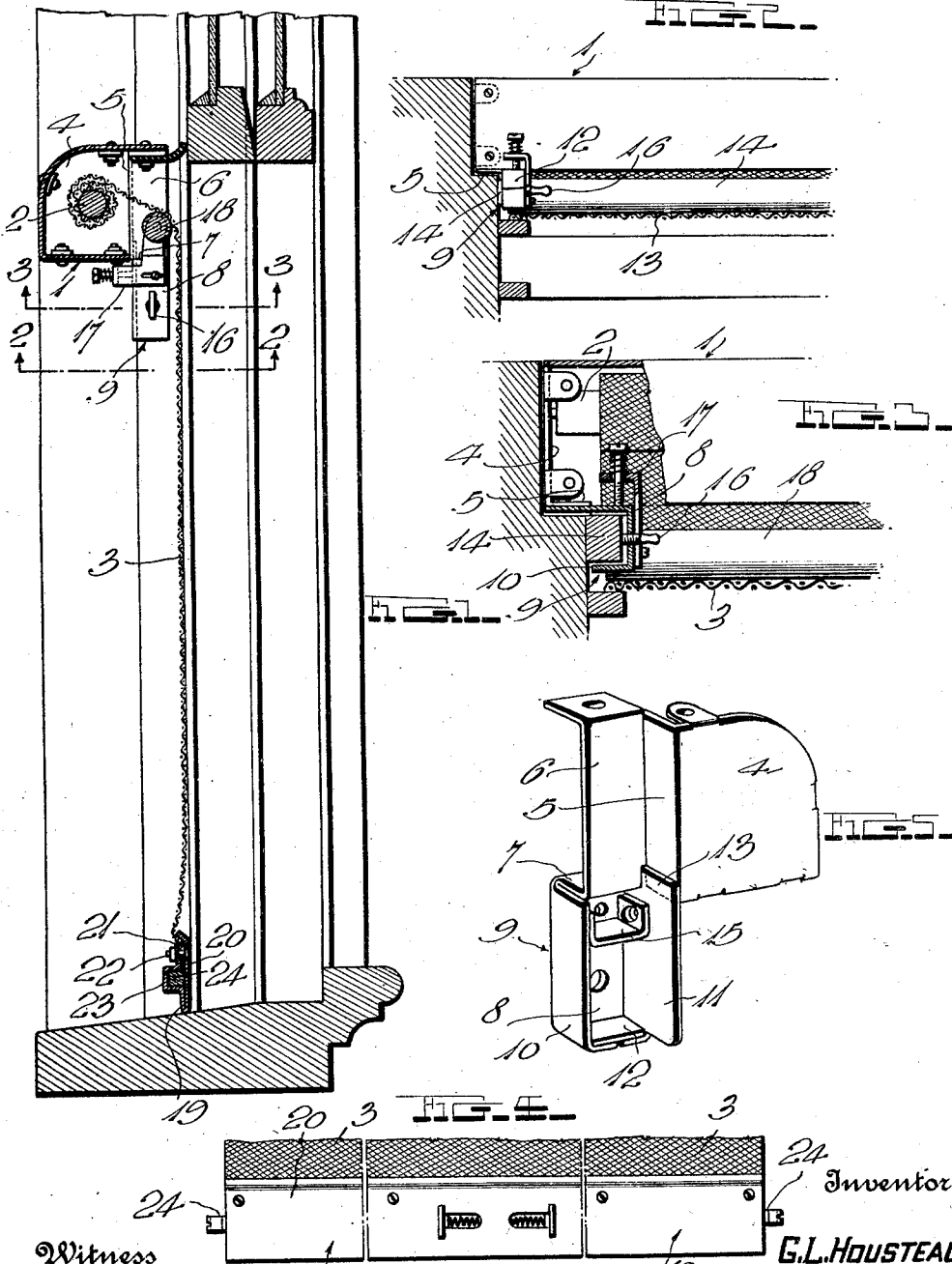
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WINDOW SCREEN

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WINDOW SCREEN.

Application filed November 15, 1923. Serial No. 674,950.

To all whom it may concern:

Be it known that I, GRANT L. HOUSTEAU, a citizen of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Window Screens; and I do 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.

My invention relates to window screens of the type which employs an elongated casing to extend between the vertical sides of a window frame, to contain a screen winding roller. A similar screen is shown in my U. S. Patent No. 1,232,803 of July 10, 1917. In the patented structure, channel-shaped guides were provided at the ends of the casing, containing a pair of shoes to be forced outwardly by set screws for the purpose of engaging the window frame and securing the casing in place. It was found however, that when the screws were tightened, the channel-shaped guides had a tendency to spring or bend inwardly so that the shoes were not forced into contact with the frame as effectively as necessary. It is one object of the present invention to provide an improved structure in which this difficulty is overcome in a simple and effective manner.

In the patented device, the lower end of the screen is metal-bound and the binding carries a pair of spring-projected rods or bolts for engaging the window frame and holding the screen in lowered position, but no provision was made for detachably connecting the binding with the screen, to permit new screen wire to be substituted for the old, or to allow a damaged lower end of the old screen wire to be cut off, and the binding reapplied. A further aim of the invention is to provide a novel form of metal binding which is detachably connected with the screen and is thus not subject to the above criticisms.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawing.

Figure 1 is a vertical transverse sectional view showing the improved screen applied to a window.

Figures 2 and 3 are horizontal sectional views as indicated by lines 2—2 and 3—3 of Fig. 1.

Figure 4 is an elevation showing the metal binding for the lower end of the screen.

Figure 5 is a perspective view of one of the improved end structures for the casing.

In the drawing above briefly described, the numeral 1 designates a horizontally elongated casing adapted to extend between the opposite sides of a window frame, said casing containing a spring-wound roller 2 upon which a screen 3 is wound. The end plates 4 of the casing 1, are of novel construction. The vertical inner edge portion of each end plate 4, is bent inwardly into parallel relation with the axis of the casing, to provide a vertical shoulder 5 and is then extended outwardly at right angles as indicated at 6, to form a vertical flange disposed in a plane parallel with and spaced inwardly from the plane of the body portion of the end plate. The flange 6 and shoulder 5, provide a right angular seat for a portion of the window frame. The flange 6 is of greater height than the body portion of the end plate 4 and it extends a considerable distance below said plate, the lower end portion of said flange being bent horizontally inward to provide a ledge 7 and being then extended downwardly as at 8 to provide one side wall of a vertically elongated channel-shaped shoe guide or housing 9, the front and rear walls 10 and 11 of the guide 9, and its lower end wall 12, being formed by bending portions of the wall 8, the lower end portion of the flange 6 being sufficiently enlarged to permit this formation. The outer side of the housing 9 is open, and its walls 7, 10 and 12 terminate substantially in the plane of the flange 6. The front wall 11 is disposed in substantially the same plane as the shoulder 5 and extends outwardly beyond the plane of the flange 6 to substantially the inner edge of the shoulder 5, and has its upper end 13, soldered or otherwise secured to the lower end of said shoulder so that the channel-shaped shoe guide 9 is effectively braced with respect to the upper part of the flange 6, the shoulder 5 and the body portion of the end plate 4. A shoe 14 is received in the guide 9, under a transverse guide strip 15 therein, and a set-screw 16 is threaded through the side wall 8 of

said guide, to project the shoe outwardly against the frame. Regardless of the extent to which this screw is tightened, it will be seen that the guide 9 cannot spring inwardly, due to the fact that its widened side wall 11 is secured at its upper end to the shoulder 5.

As in the patent above referred to, the ledge 7 is instrumental in supporting an adjustable bracket 17 carrying a roller 18 which disposes the screen 3 in the proper vertical plane, as it passes out of the casing 1.

The lower end of the screen 3 is bound by a strip of sheet metal 19 which is bent upon itself to provide a pair of upstanding flanges 20 and 21 to receive the screen 3 between them, the upper portions of these flanges being secured against opposite sides of the screen by bolts 22. The flange 21 is outwardly stamped throughout its length to provide a receiving channel 23 for a pair of spring-projected rods or bolts 24 which engage the sides of the window frame to hold the screen in lowered position.

Any details of construction illustrated but not described, are fully disclosed in Patent 1,232,803, above referred to.

As excellent results are obtainable from the improvements shown, the details illustrated are preferably followed, but within the scope of the invention as claimed, minor changes may be made.

Obviously, the casing may be used either at the upper end of the lower sash or at

the upper end of the upper sash. It will be further understood that the outer ends of the bolts 24 may be grooved or otherwise formed to insure good engagement with the frame.

I claim:

A device of the class described comprising a roller receiving casing to extend between opposed sides of a window frame, end plates for said casing, each of said plates having its inner vertical edge portion bent inwardly into parallel relation with the axis of said casing to form a vertical shoulder and then extended outwardly at right angles to said shoulder to provide a vertical flange disposed in a plane parallel with and spaced inwardly from the plane of the body portion of the end plate, and a substantially rectangular shaped shoe housing joined to the lower end of said flange, the outer side of said housing opening outwardly and having its upper, lower and rear walls terminating substantially in the plane of said flange, the front wall of said housing being disposed substantially in the plane of said shoulder and extending outwardly beyond the plane of said flange to substantially the outer edge of said shoulder and being secured to said shoulder, whereby to prevent relative springing of said housing and said shoulder.

In testimony whereof I have hereunto affixed my signature.

GRANT L. HOUSTEAU.