J. M. BEAHAN.

WINDOW SCREEN.

APPLICATION FILED JULY 21, 1908.

905,634.

Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.

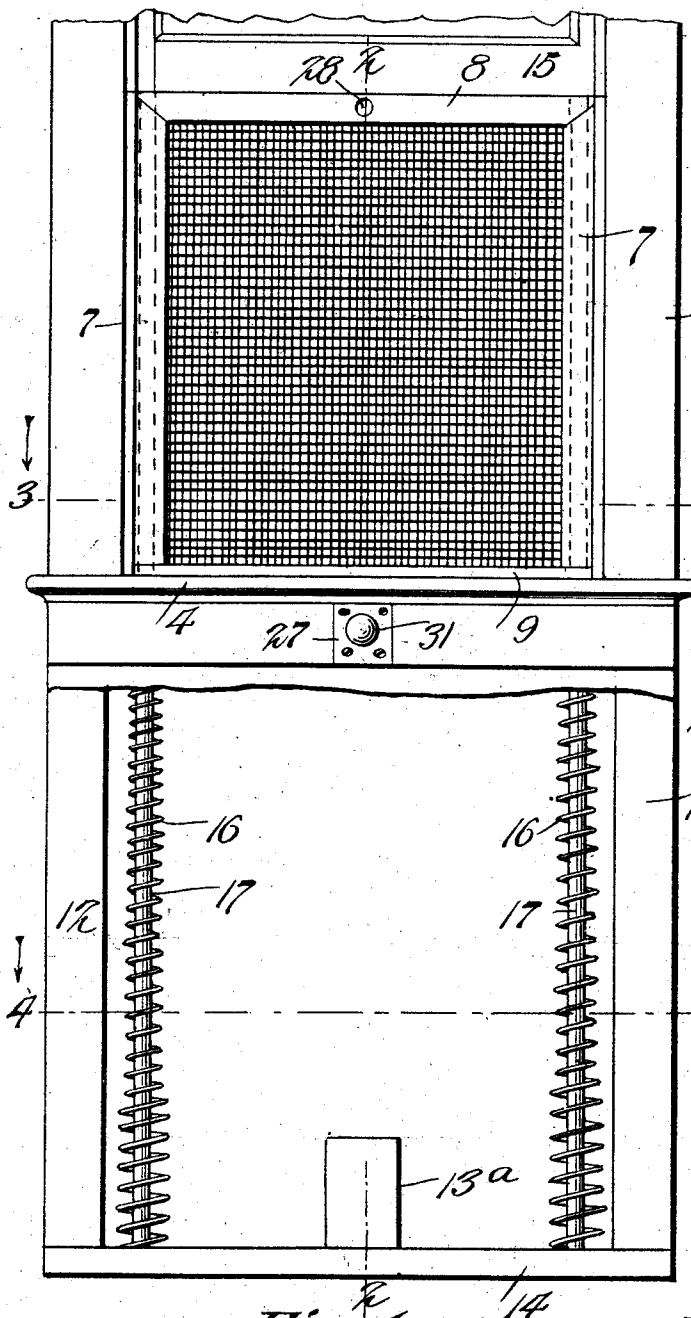


Fig. 1.

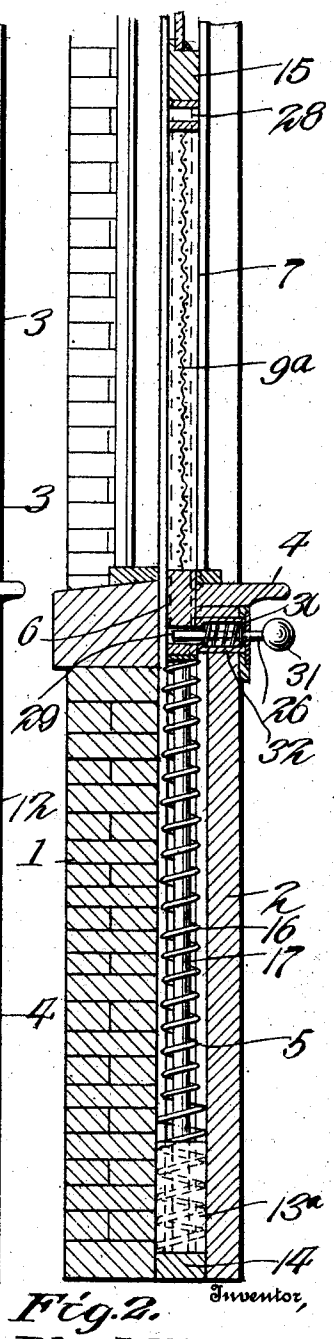


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

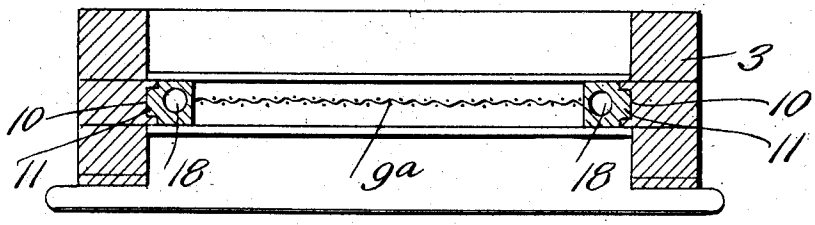


Fig. 4.

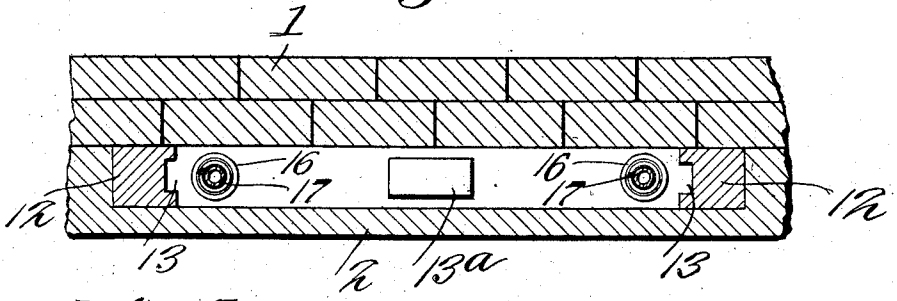


Fig. 5.

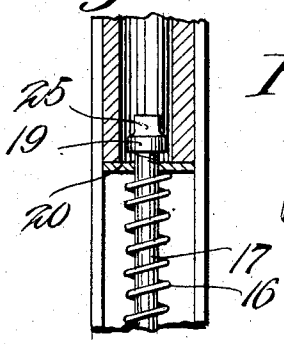


Fig. 7.

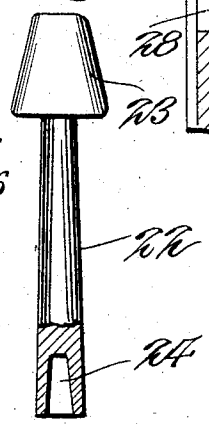
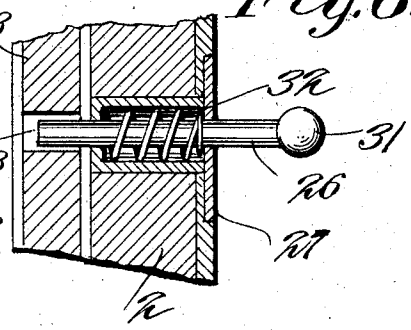


Fig. 6.



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WINDOW-SCREEN.

No. 905,634. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed July 21, 1908. Serial No. 444,578.

To all whom it may concern:

Be it known that I, JOHN M. BEAHAN, a citizen of the United States, residing at Hancock, in the county of Houghton and State of Michigan, have invented new and useful Improvements in Window-Screens, of which the following is a specification.

My invention relates to improvements in window screens, and the primary object of the invention is the provision of a screen, which in use, is adapted to automatically move into closed position upon the raising of the lower sash of a window.

A further object of the invention is the provision of simple means adapted to lock the sash in either its closed or opened position.

A still further object of the invention is the provision of a window screen which is simple, durable and efficient, which may be manufactured and sold at a comparatively low cost and which may be readily and quickly installed for use.

With the above and other objects in view the invention consists in the construction, combination and arrangement of parts hereinafter fully described, claimed and illustrated in the accompanying drawings, wherein

Figure 1 is a view in front elevation illustrating the application of my improved window screen. Fig. 2 is a sectional view taken on the vertical plane indicated by the line 2—2 of Fig. 1. Fig. 3 is a sectional view taken on the horizontal plane indicated by the line 3—3 of Fig 1, looking in the direction indicated by the arrow. Fig. 4 is a horizontal sectional view taken on the plane indicated by the line 4—4 of Fig. 1, looking in the direction indicated by the arrow. Fig. 5 is a sectional view illustrating the connection between the guide rods and the screen frame. Fig. 6 is a sectional view illustrating the construction of the means adapted to lock the screen in either its closed or opened position, and Fig. 7 is a view in side elevation of the tool by means of which the securing heads of the guide rods may be applied and removed.

Referring to the drawings by reference numerals, 1 designates a portion of the outer wall, 2 a portion of the inner wall, and 3 the window frame of a building.

In order to permit the application of my improved window screen the inner and outer walls are formed at a point below the window sill to provide a compartment 5, and the window sill is provided with a slot 6 which communicates with the compartment.

A screen, which consists of side rails 7, a top rail 8 and a bottom rail 9, and a reticulated panel 9^a, is slidably mounted in the lower sash grooves 10 of the window frame 3 as fully disclosed in Figs. 3 and 4 of the drawings. The side rails 7 of the screen are reduced to provide ribs 11 which are received by the sash grooves 10 of the window frame. When it is desired to open the screen the same is lowered into the compartment 5, and to guide the movements of the screen while it is being lowered into and withdrawn from the compartment, vertical members 12 are arranged within the compartment, said members being provided with grooves 13 adapted to receive ribs 11 of the screen. To limit the lowering or opening movement of the screen, a block 13 is arranged within the compartment 5, said block being carried by a horizontal timber 14 which is secured to the lower ends of the vertical guide members 12.

Upon the raising of the lower sash 15, the screen is adapted to be automatically raised or moved into closed position by means of expansible coiled springs 16. The springs 16 are interposed between the bottom rail 9 of the screen and the horizontal timber 14, whereby they will be compressed upon the lowering or opening of the screen. The springs are coiled about vertical rods 17 which are secured at their lower ends to the horizontal timber 14 and which are adapted to be received by passages 18 in the side rails 7 of the screen. The rods are preferably hollow and have their upper ends threaded for the reception of caps or nuts 19, which are adapted to limit the raising or opening movement of the screen by engaging plates 20 secured to the side rail 7 of the screen at the lower ends of the passages 18, as fully disclosed in Fig. 5 of the drawings, the upper ends of the passages being fully opened. The heads or nuts 19 are adapted to be removed from and applied to the rods 17 by means of the tool disclosed in Fig. 7 of the drawings. The tool comprises a shank 22 provided at its upper end with an operating handle 23 and at its lower end with a socket 24 the socket being adapted to receive an extension 25 which is formed on each of the heads or nuts 19.

The screen is adapted to be locked in

either its closed or opened position by means of a bolt 26 which is slidably mounted in the casing 27 for engagement in a socket 28 in the upper rail 8 of the screen or in a socket 29 in the lower rail 9 of the screen. The bolt 26 is yieldingly held in active position by means of a coiled spring 30, and it is provided with an operating head 31. The casing 27 is located within an opening 32 which is provided in the inner wall 2 of the building.

When it is desired to open the screen the bolt 26 is withdrawn, and the screen is lowered into the compartment 5. The opening of the screen compresses the spring 16, and the screen is adapted to be held in its opened position by allowing the bolt 26 to engage in the opening 28 in the upper rail 8 of the screen. When it is desired to raise or close the screen the bolt 26 is withdrawn, whereupon the springs 16 raise the screen 2 and hold it in its closed position. In view of the location of the screen in the lower sash grooves of the window frame 3 the screen is moved into its opened position upon the lowering or closing of the lower sash. As the springs are adapted to automatically move the screen to its closed position, the screen is automatically closed upon the raising or opening of the lower sash. Each spring 16 is increased in size and diameter at its lower end whereby to permit the upper portions of the springs to fold within the lower portions thereof when the springs are compressed on the lowering of the screen. As the screen is adapted to be held in its opened position by the bolt 26, the lower sash may be raised or opened without employing the screen. The springs 16 may be of such strength that they will raise both the sash and the screen upon the withdrawal of the bolt 26 from the opening 28 in the top rail 8 of the sash. During the winter months it is better to remove the springs so that they may be stored in a manner to prevent their corroding. When it is desired to remove the springs the screen is opened and the caps or nuts 19 are removed from the rods 17, after which the screen is raised so as to move the same off of the rods, thus permitting the removal of the springs. After the springs are removed the sash is lowered into the compartment 5 and secured therein through the medium of the bolt 26.

It should be apparent from the above description, taken in connection with the accompanying drawings, that I provide a window screen which is simple, durable and efficient, which may be manufactured and sold at a comparatively low cost, and which may be readily and quickly installed for use.

Changes in the form, proportions, and minor details of construction may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim as new is:—

1. The combination with a window frame, of a screen slidably mounted in one of the sash grooves of the window frame, said screen having its side rails provided with passages, a timber supported at a point below the window frame, rods carried by the timber and adapted to be received by the passages in the screen, and expansible springs interposed between the timber and the frame.

2. The combination with a window frame, of a screen slidably mounted in one of the sash grooves of the window frame, said screen having the side rails thereof provided with passages, plates secured to the frame and provided with openings alining with the passages therein, a timber supported at a point below the window frame, rods carried by the timber and passing through the openings in said plates in said passages, and springs interposed between the timber and the screen.

3. The combination with a window frame, of a screen slidably mounted in one of the sash grooves of the window frame, said screen having the side rails thereof provided with passages, a timber supported at a point below the window frame, rods carried by the timber and received by the passages, a block carried by the timber and adapted to limit the opening movement of the screen, springs interposed between the timber and the screen, and a spring pressed bolt adapted to enter either of the openings in the screen.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. BEAHAN.

Witnesses:

CLYDE S. MACKENZIE,

MICHAEL M. FOLEY.