

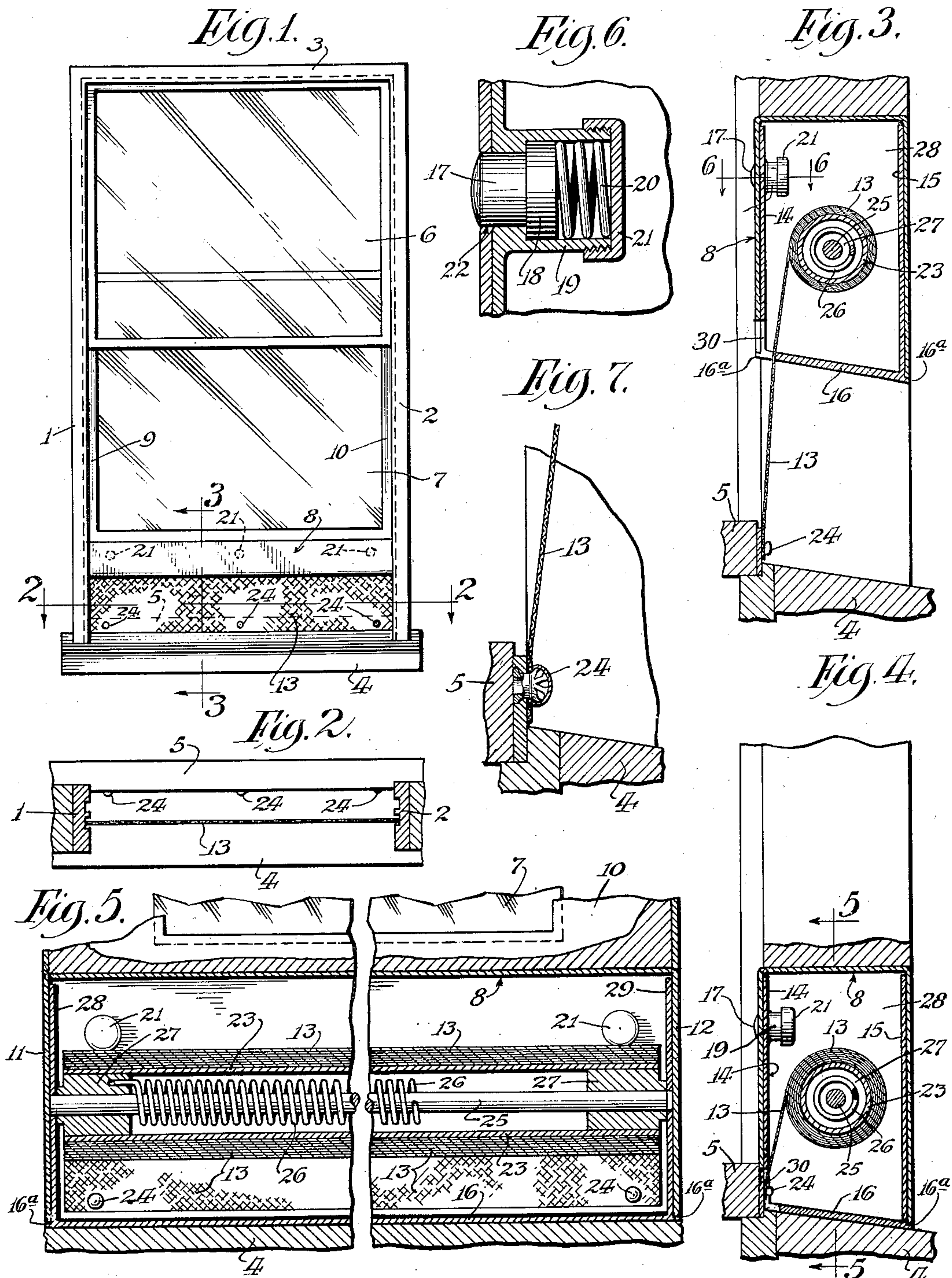
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AUTOMATIC SCREEN AND FILTER

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AUTOMATIC SCREEN AND FILTER

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5 Claims. (Cl. 156—39)

The present invention relates to a screen construction and more particularly to an automatically operated screen or filter carried by the window sash.

Among the objects of the present invention is the provision of a novel construction of screen or filter adapted to be automatically adjusted by a raising or lowering of the window sash.

Another object of the invention is the provision of a novel screen and filter and of means for mounting or anchoring an end thereof to the base of the window.

A further object of the invention is the provision of a novel casing for housing a rolled-up screen or filter within the lower rail of a window sash whereby when the sash is raised, the screen or filter automatically replaces the glass, thus permitting light and air to pass therethrough but preventing the entrance of insects, etc.

A still further object is to provide a novel casing for housing an extensible screen within the window sash, said casing being readily assembled, removed from or replaced on the sash.

Yet another object of the invention is the provision of a combined screen and housing therefor which can be assembled, removed or replaced as a unit, in a window sash or frame.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

The invention further resides in the construction, combination and arrangements of parts illustrated in the accompanying drawing, and while I have shown therein a preferred embodiment, it is to be understood that the same is susceptible of modification and change, and comprehends other details, arrangements of parts, features and constructions without departing from the spirit of the invention.

In the drawing:

Fig. 1 is a view in front elevation of a window construction provided with the novel screen and filter unit.

Fig. 2 is a view in horizontal cross section taken in a plane represented by the lines 2—2 of Fig. 1;

Fig. 3 is a view in vertical cross section taken in a plane represented by the lines 3—3 of Fig. 1;

Fig. 4 is a view similar to Fig. 3, but disclosing the sash in lowered position;

Fig. 5 is a view in vertical cross section taken in a plane represented by the line 5—5 of Fig. 4;

Fig. 6 is a view in vertical cross section of a

locking means for locking the screen and its casing to the lower sash rail taken on the line 6—6 of Fig. 3;

Fig. 7 is a view in vertical cross section through a means for attaching the lower end of the screen to the base of the window.

Referring more particularly to the disclosure in the drawing, the window frame comprises side jambs 1 and 2, a head jamb 3 and a sill 4 provided with a stool 5. Slidably mounted within the window frame is an upper sash 6 and a lower sash 7. The window and its frame are preferably formed of metal, although it is to be understood that the same may be constructed of wood or any other suitable material.

The lower sash 7 is provided with a channel-shaped rail 8 open at its bottom and connected to the side rails 9 and 10 of this sash by means of end plates 11 and 12, as by welding, rivets, screws or the like. Suitably mounted in the channel-shaped rail 8 is a casing or housing for an extensible screen and filter 13 composed of wire mesh, cloth or the like. This housing is preferably formed with sides 14 and 15, and an angularly arranged base 16 adapted to conform to the slope of the sill 4. This casing conformably seats within the channel formed in the lower rail 8, and to retain this casing in position, the invention comprehends suitable retaining means comprising a plunger or button 17 having an enlargement 18 sliding in a boss 19 formed in the side 14 of the casing. A spring 20 seats against one end of the enlargement 18, and its other end seats against a removable closure or cap 21 permitting the assembly and removal of the plunger and spring. In the inner side of the sash rail 8 adjacent the side 14 of the casing are provided openings 22 into which the plunger extends. It will be readily appreciated that when the casing is slipped into position and the plungers come into alignment with or coincide with the openings 22, the springs 20 will force these plungers through the openings and lock or anchor the casing in position. When it is desired to remove the casing, all that is necessary is to depress these plungers or buttons and the casing will drop out by reason of its own weight. The lower end or base 16 of the casing is provided with a projecting rib 16^a adapted to abut against the lower edge of the outer side of the rail 8 and limit the insertion of the casing into the sash rail.

The screen and filter 13 has its one end attached to a tubular roller 23 and its lower end is adapted to be attached to retaining buttons or fastening devices 24 mounted on the stool or base of the

window frame. Although I have shown three of these retaining fasteners, one at each end of the stool and one in the center, it is to be understood that any desirable number may be employed to
 5 suitably retain the lower end of the screen in tight engagement with the stool. Within the tubular roller 23 is mounted a shaft 25 about which is coiled a spring 26. One end of this spring is suitably attached to the shaft or rod 25
 10 and the other end is suitably attached or embedded in one of the end bearings 27. The ends of the rod or shaft 25 are seated in the opposite end walls 28 and 29 of the casing housing the screen.
 15 In order that the screen and filter 13 may be raised and lowered as the lower sash is raised or lowered, and to permit the lower sash to be completely closed, the side wall 14 and the base 16 of the casing are formed with a longitudinally extending opening or slot 30 of a length conforming to the width of the screen. Thus it will be
 20 seen that the sash may be readily lowered or raised without any binding on the screen.
 25 From the above description and the disclosure in the drawing, it will be readily apparent that the invention comprehends a novel screen and filter construction which may be cheaply manufactured and readily assembled in a window sash.
 30 In windows now in use, it merely requires the replacement of the lower rail where it does not have a contour adapted to receive the screen and its casing, or the screen and its casing may be assembled in the sash at the factory. The novel construction permits a complete enclosure of the

operating mechanism for the screen and in which the enclosed screen is not open to the elements.

Having thus disclosed the invention, I claim:

1. A window screen and filter construction for a window sash provided with a hollow lower rail, an extensible screen adapted to be anchored on the base of the window frame, and a removable casing in said rail adapted to house said screen. 5
2. A window screen and filter unit for windows provided with a sliding sash, comprising a casing adapted to be carried by the sash, an extensible screen and filter housed within said casing, and spring-pressed retaining members for detachably holding the casing in proper position. 10
3. A window screen construction for a window sash provided with a hollow lower rail, comprising a casing and an extensible screen within the casing, said casing being insertible between the sash rail walls and detachably carried by the sash. 15
4. A window screen device for a window sash comprising spaced apart walls depending from said sash, and a casing adapted to be connected to said walls and to extend across the bottom of the space between the walls, said casing adapted to hold a rolling screen. 20 25
5. A window screen unit for a window sash provided with spaced apart depending walls, comprising a casing adapted to be detachably connected to said walls and to extend across the bottom of the space between the walls, said casing adapted to hold a rolling screen, and yielding retaining members for holding the casing in proper position relative to said walls. 30

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