M. HIKES.

COMBINED WINDOW SASH AND SCREEN.

APPLICATION FILED JULY 19, 1911.

1,038,138.

Patented Sept. 10, 1912.

FIG. 1.

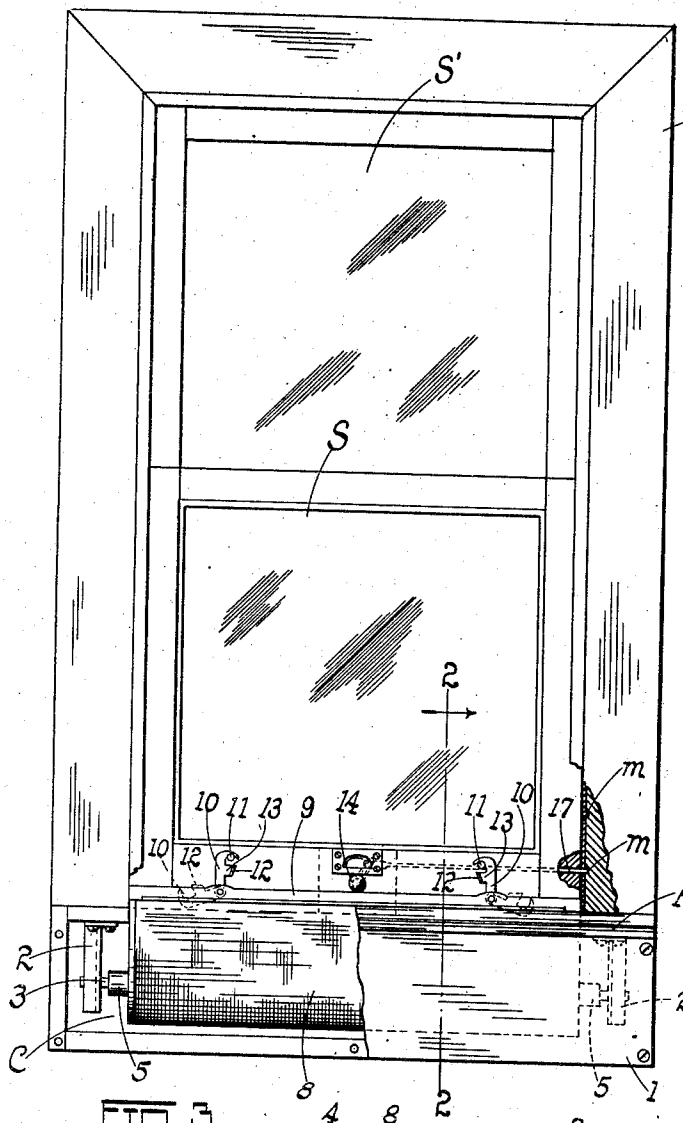


FIG. 2.

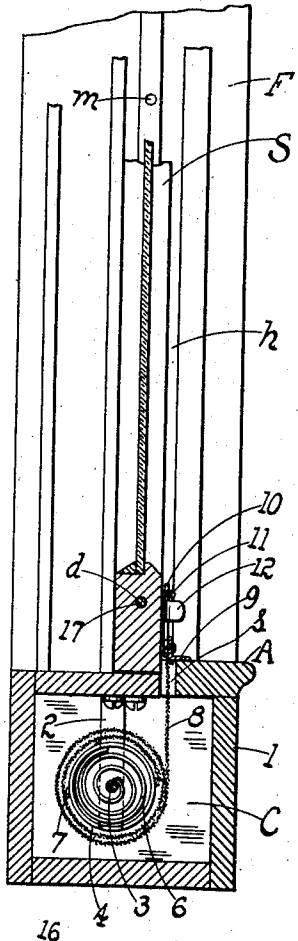


FIG. 3.

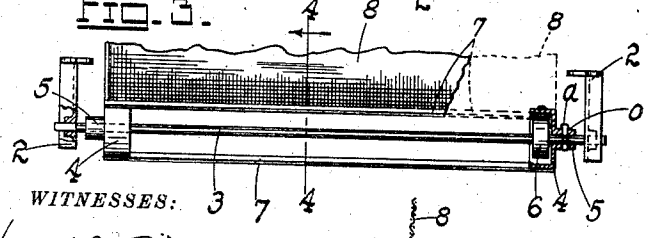


FIG. 4.

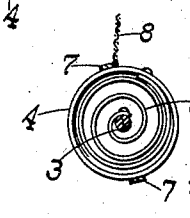
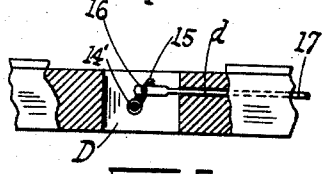


FIG. 5.



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COMBINED WINDOW SASH AND SCREEN.

1,038,138. Specification of Letters Patent. Patented Sept. 10, 1912.

Application filed July 19, 1911. Serial No. 639,373.

To all whom it may concern:

Be it known that I, MIRKO HIKES, a subject of the Emperor of Austria-Hungary, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Combined Window Sashes and Screens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in combined window sashes and screens; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a front elevation of a window frame, with parts broken away, showing my invention applied thereto; Fig. 2 is a vertical cross-section on the line 2—2 of Fig. 1; Fig. 3 is an elevation of the winding drum showing the web unrolled therefrom so as to disclose the manner of securing the inner end of the web to the drum; Fig. 4 is an inner end view of one of the drum-heads or cups; and Fig. 5 is a detail showing the bottom rail of the sash broken to show the manner of mounting the locking bolt.

The object of my invention is to provide a flexible wire-mesh sheet or web adapted to be wound about a drum in a compartment below the window frame, one end of the sheet being connected to the bottom rail of the sash, whereby, as the sash is raised the sheet will be pulled with it and thus unwound from the drum, and thereby serve as a fly-screen. A closing of the sash will cause an automatic winding or wrapping of the sheet about the drum, so that when the sash is fully closed, the screen will disappear wholly within the compartment or casing in which the drum is located.

The invention, though here illustrated in connection with the lower window-sash may, with equal propriety be used with the upper sash, the drum compartment in that case being located at the top of the window frame instead of at the bottom, as will be clearly obvious from a detailed description of the invention which is as follows:—

Referring to the drawings, F represents a conventional window frame, and S, S′, the lower and upper sashes thereof respectively. Beneath the sill A is located a compartment or casing C the front wall 1 of which is removable. Depending from the roof of the casing C are brackets or hangers 2, 2, for the support of the cylindrical axle-bar 3, the bar having square ends supported in the brackets and thus prevented from turning. Rotatable about the axle 3 is an open drum composed of terminal cups or heads 4, 4, each cup being provided with an outer hollow hub or trunnion 5 as shown. As just stated, each head 4 is cup-shaped or flanged, the flange serving as a means to which one end of a winding spring 6 is fastened, the opposite end of the spring being secured to the axle 3. The cups 4 are connected by longitudinal braces or bars 7 thus forming a skeleton drum the component parts of which rotate as a unit about the axle 3. One of the hubs 5 is provided with an opening *o* which may be brought in register with a corresponding opening in the axle 3, for the reception of a pin *a*, whereby the drum may be held against rotation, and thus prevent unwinding of the springs when occasion arises to replace a worn out sheet or web 8 constituting the screen.

The inner end of the screen-web is secured to one of the bars 7 and the web wrapped about the drum a suitable number of times, the outer end of the web being passed through a slot *s* in the sill A and secured on the outside of the sill to an angle-bar 9 the horizontal leg of which rests on the sill for a closed position of the sash S. The length of the vertical leg of the angle-member 9 is equal to that of the bottom rail of the sash, the ends of said leg traveling in the same grooves *h* with the sides of the sash, the horizontal leg being cut off so as to terminate just within the frame F (Fig. 1).

To the inner face of the vertical leg of the angle-bar 9 are pivoted latches 10, 10, swinging in vertical planes parallel to the sash, and when swung out the hooked terminals of the latches engage pins 11, 11, on the sash rail, thus coupling the web 8 to the sash. Each latch is provided with a lip 12 bent outwardly from an arm 13 formed on the latch, the lip 12 being adapted to rest on the edge of the vertical leg of the member 9 and thus arrest the latch when the latter is swung to its depressed position and out of engagement with the keeper or pin 11. When thus depressed the latch is concealed from view, nothing showing except the edge of the lip 12 resting on the member 9. At

the center of the bottom rail of the sash is a rotatable button or knob 14 to the stud 14′ of which is secured a slotted arm 15 traversed by a pin 16 at the inner end of a locking-bar or bolt 17 operating in a passage-way *d* leading from a cavity D formed in the sash rail for the housing of the arm 15. The outer end of the bolt coöperates with the sockets *m* on the side of the frame F for holding the window open at any desired position. By turning the knob 14 in proper direction the bolt 17 may be moved so as to lock or release the sash. The sash-lock however is well known and forms no part of the present invention. Features shown but not referred to are well understood in the art and require no description in the present connection.

The operation may be described as follows:—By swinging the latches 10 up so as to engage their keepers 11 on the sash rail, and raising the sash, it is obvious that the web 8 now anchored to the sash will be pulled up with it and proportionately unwound from the drum. The portion of the web thus drawn out of the casing C will serve as a screen; and when the window sash is closed, the screen web will automatically be wound on the drum under the action of the springs 6, allowing the angle-bar 9 to settle on top of the sill A. If it be desired to raise the sash S without pulling the screen after it (as is the case in cold weather) the latches are swung down and behind the vertical leg of the angle-bar 9 (see dotted position Fig. 1) thus disconnecting the screen from the sash. The latter may then be raised or lowered without disturbing the screen. Should it be desirable to replace a worn screen by a new one, the old screen is detached from the sash and pulled out through the slot *s* until the drum is fully unwound. The wall 1 is removed and a pin *a* is inserted through the registering openings in the hub of one of the drum-heads and the axle (Fig. 3) whereby the springs 6, 6, (now under tension) are prevented from turning the drum. The old screen-web is then detached from the bar 7 and pulled entirely out through the slot *s*. The inner end of the new web is then inserted from the outside through the slot *s* fastened to the drum, the pin *a* pulled out and the springs allowed to wind the new web on the drum, the member 9 carried by the outer end thereof settling on the sill A, after which connection thereof with the sash, is made by the latches 10. The new web being in place, the wall 1 is restored thus covering the casing C.

Having described my invention, what I claim is:—

A movable screen provided with a terminal angle-bar operating in front of, and in conjunction with a sash-rail, a latch pivoted to a leg of the angle-bar and operating in the space between said leg and rail, and adapted to be coupled to the rail, the latch being provided with an outwardly deflected lip to engage the edge of the leg of the angle-bar for a released position of the latch.

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

MIRKO HIKES.

Witnesses:
EMIL STAREK,
FANNIE E. WEBER.