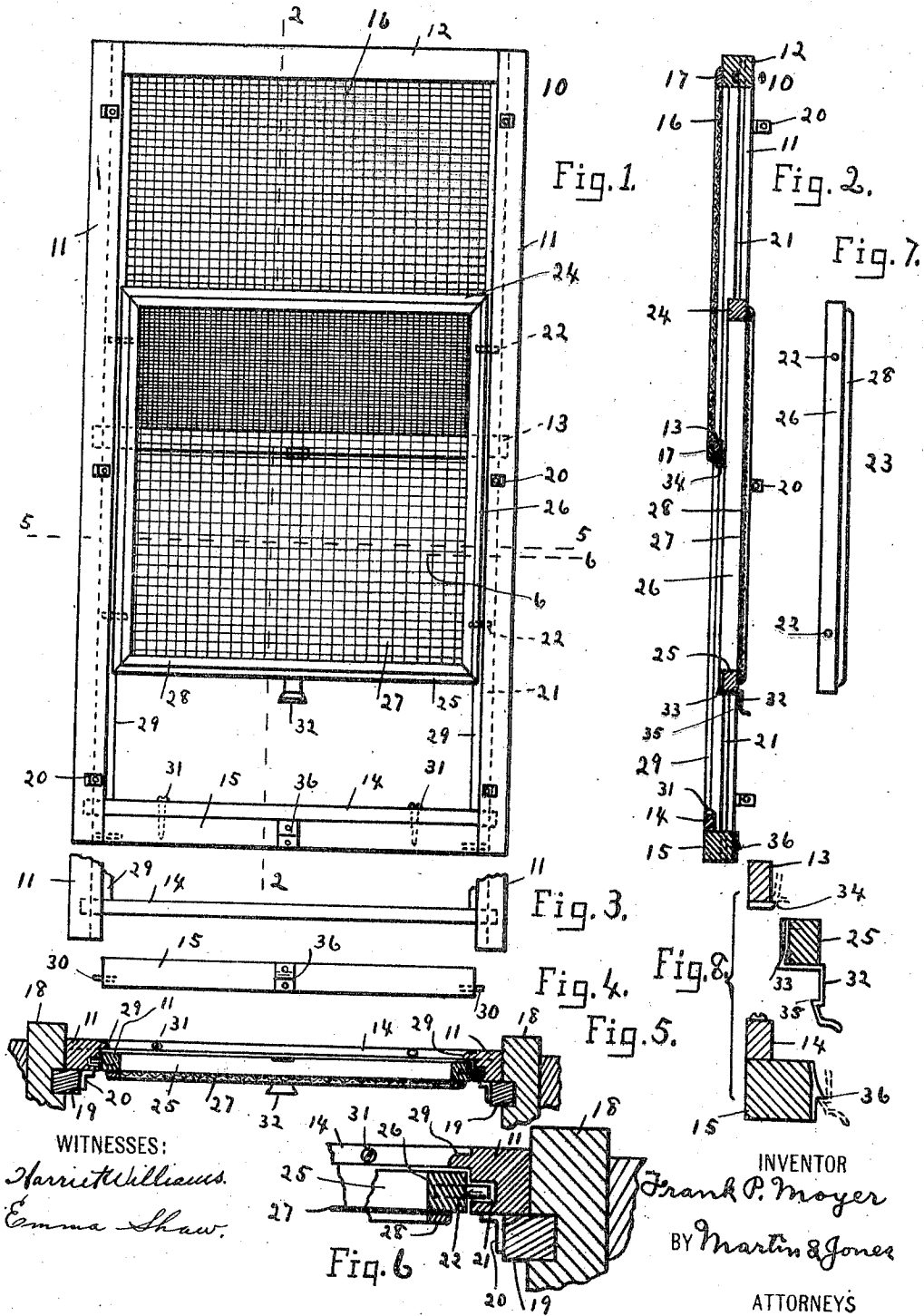


F. P. MOYER,
WINDOW SCREEN.
APPLICATION FILED JUNE 24, 1911.

1,038,936.

Patented Sept. 17, 1912.



UNITED STATES PATENT OFFICE.

FRANK P. MOYER, OF UTICA, NEW YORK.

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Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed June 24, 1911. Serial No. 635,102.

To all whom it may concern:

Be it known that I, FRANK P. MOYER, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Window-Screens; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the reference numerals marked thereon, which form part of this specification.

The purpose of my invention is to provide an improved window screen of the class wherein a part of the screen is a sash movably mounted in the main screen frame, so that people within the house may have ready access through the window, as for reaching the outside blinds or obtaining a more unobstructed view.

My object is to provide a construction that is simple and durable and one that will insure at all times an easy operation of the movable sash.

Heretofore movable screen sashes have usually been slidingly mounted in the frame by placing the entire side edges of the sash in grooves or slideways. This method resulted in a large amount of surface in frictional contact and was not satisfactory as the sash was held too tight for easy movement on account of slight variations in the size of the engaging parts or the angle of the window frame or screen or on account of the action of the weather upon the screen.

To provide a construction that will effectively overcome these difficulties is one object of my invention.

Other advantages of construction will appear from the specification and claims that follow.

Figure 1 is a front view of a screen embodying my invention, looking at the surface that would be toward the inside of the window. Fig. 2 is a perpendicular sectional view on line 2—2 of Fig. 1. Fig. 3 is a front view of the lower portion of the frame with the removable bottom cross piece removed. Fig. 4 is a side view of the removable bottom piece. Fig. 5 is a horizontal sectional view on line 5—5 of Fig. 1. Fig. 6 is an enlarged sectional view on line 6—6 of Fig. 1. Fig. 7 is a side-on edge

view of the movable screen sash. Fig. 8 is a diagrammatic view on an enlarged scale showing the operation of the spring catch.

Referring to the drawings in a more particular description, the frame 10 is composed of sides 11 connected by a top 12, central cross-piece 13, fixed bottom cross-piece 14 and a removable bottom cross-piece 15. To the outer side of the upper half of this frame is permanently secured the upper screen 16 of woven wire cloth or other suitable screen material, extending from side to side and from the top 12 to the central cross-piece 13 and preferably having a facing or binding strip 17 in the usual manner. The frame 10 is set into the window frame 18 from without and preferably sets up against the outer edge of the outer window sash stop 19 and may be secured in place by any suitable means such as small angle brackets 20 fastened to the sides 11 of the frame and to the stop 19.

Upon the inner edge of each of the sides 11 there is provided a groove 21 extending the entire length of the side into which project and loosely fit the rounding pins 22 which project from the side edges of the sliding screen sash 23. This sash is a rectangular frame consisting of top and bottom cross pieces 24 and 25 respectively and side pieces 26, having affixed thereto on its inner surface a proper screen material 27 with the usual facing strip 28 covering the edges of the screen material. The sash 23 is of such width as to fit loosely between the sides 11 of the main frame 10 and of such length as to close the lower part of the frame which is not provided with screen material. The pins 22 serve to hold the movable sash in the frame and allow it to be easily raised and lowered therein. The pins are of less diameter than the width of the groove 21 and their projecting length is less than the depth of the groove 21. I prefer to use only two of these pins on each side of the sash. The width of the sash is such that when one side is against one side piece 11 of the frame 10 the other side of the sash will not touch its adjacent side piece 11. It will thus be seen that the sash cannot bind or stick in the frame and that there are only four contact points of the pins 22 in the grooves 21 and that friction at these points is reduced to a minimum by reason

of the pins presenting a rounding surface to the grooves and being too small to touch both sides of the groove.

It will be understood that the central cross-piece 13 is thin and so placed toward the outer surface of the frame that it will not be touched by the movable sash. On account of the sash fitting so loosely in the frame as to leave an appreciable space on one side when it is close against the frame at the other side, an overlapping projection 29 is provided upon the inner edge of the sides 11 toward their outer surface, of such height as to project beyond the outer edge of the sash in any position it may take and so positioned relative to the path of the movable sash as not to be in contact therewith but close enough to prevent insects from going through said space. This projection may conveniently be formed integral with the sides 11.

For convenience in assembling the screen and in order to be able to remove the sash from the frame readily, I form the lower end of the frame 10 with a permanent bottom cross-piece 14 and a removable bottom cross-piece 15. The permanent bottom 14 is rigidly secured to the sides 11 and is so located toward the outer surface of the frame and of such thickness as to allow the sash to be slid by it out of the frame when the bottom piece 15 is removed and the frame or at least its lower end withdrawn from the window casing. The removable bottom cross-piece is of such thickness as to prevent such removal of the sash as may be conveniently held in place by pins or tongues 30 projecting from the ends of the bottom piece 15 and fitting snugly into the grooves 21 and by screws 31 passing through the fixed bottom 14 into the upper part of the bottom piece 15, as clearly appears in Figs. 2, 3 and 4.

A spring catch 32 upon the bottom cross-piece 25 of the sash has a point 33 to engage a clip 34 upon the central cross bar 13 when the sash is raised, and a point 35 to engage a clip 36 upon the bottom of the frame when the sash is in its normal lower position.

What I claim as new and desire to secure by Letters Patent is:

1. The combination in a window screen of a rigid frame forming a closure of the entire window frame and removable bodily therefrom consisting of top and bottom

cross-pieces and two sides having inwardly extending grooves on their inner edges, a screened movable sash normally closing the lower part of said frame and loosely fitting between said frame sides, pins projecting from the side edges of said sash into said grooves and adapted to slidably hold said sash between said frame sides, a central cross-piece out of the path of said sash and a fixed screen over the upper part of said frame secured to said top and central cross-pieces and the sides.

2. The combination in a window screen of a rigid frame forming a closure of the entire window frame and removable bodily therefrom consisting of top and bottom cross-pieces and two sides having inwardly extending grooves on their inner edges, a screened movable sash normally closing the lower part of said frame and loosely fitting between said frame sides, pins projecting from the side edges of said sash into said grooves and adapted to slidably hold said sash between said frame sides, a central cross-piece out of the path of said sash, a fixed screen over the upper part of said frame secured to said top and central cross-pieces and the sides and strips projecting from said frame sides beyond the outer edges of said sash and spaced therefrom.

3. The combination in a window screen of a rigid frame forming a closure of the entire window frame and removable bodily therefrom consisting of a top, a central and a fixed bottom cross-piece and two sides having inwardly extending grooves on their inner edges, a screened movable sash normally closing the lower part of said frame and loosely fitting between said frame sides, pins projecting from the side edges of said sash into said grooves and adapted to slidably hold said sash between said frame sides, a fixed screen over the upper part of said frame, said central and fixed bottom cross-pieces being out of the path of said movable sash, and a removable bottom cross-piece closing the lower end of said slots.

In witness whereof I have affixed my signature, in the presence of two witnesses, this 21st day of June 1911.

FRANK P. MOYER.

Witnesses:

HARRIET WILLIAMS,
EMMA SHAW.