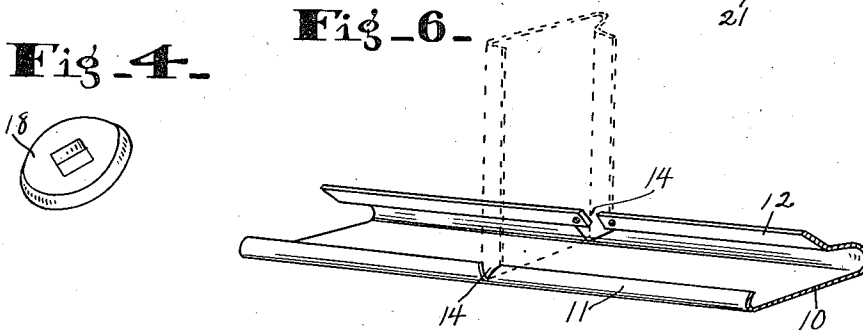
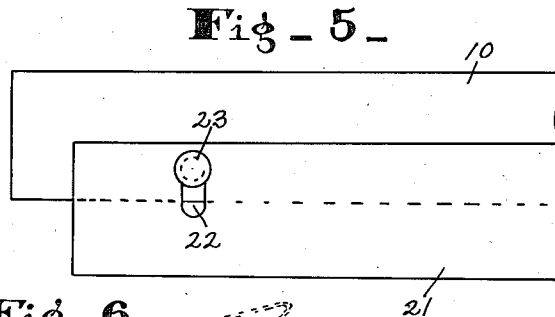
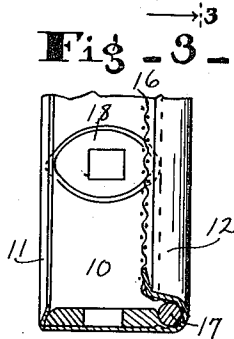
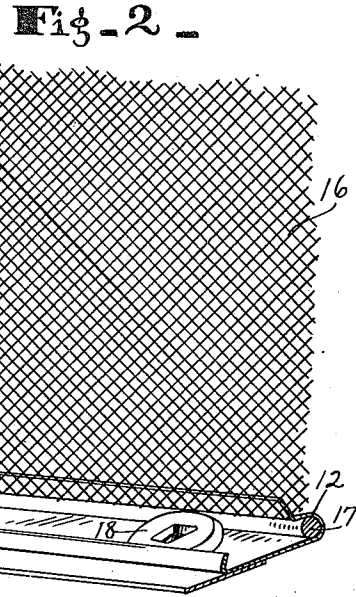
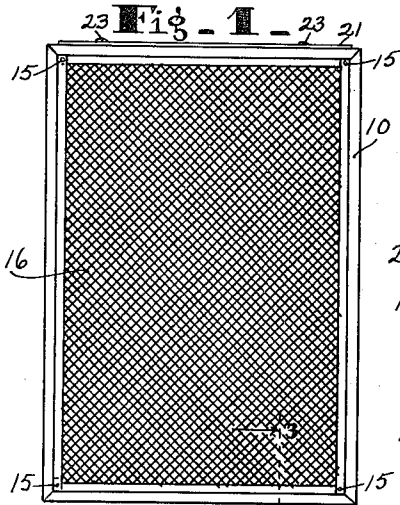


J. S. SPEER.
WINDOW SCREEN.
APPLICATION FILED SEPT. 22, 1909.

975,172.

Patented Nov. 8, 1910.

2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

Fig - 7 -

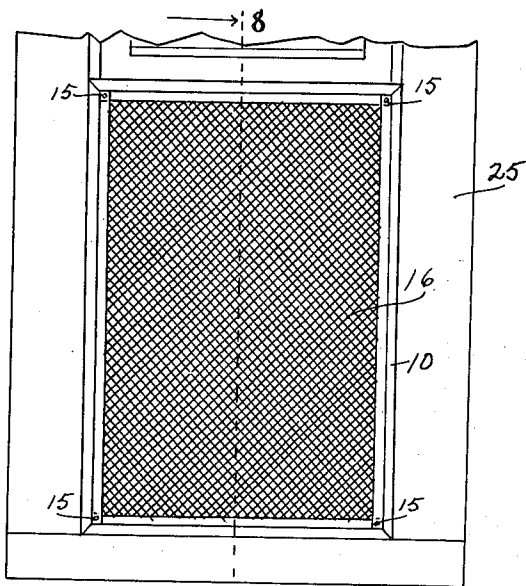


Fig - 8 -

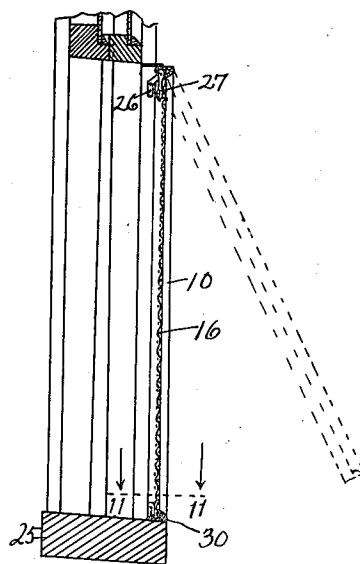


Fig - 9 -

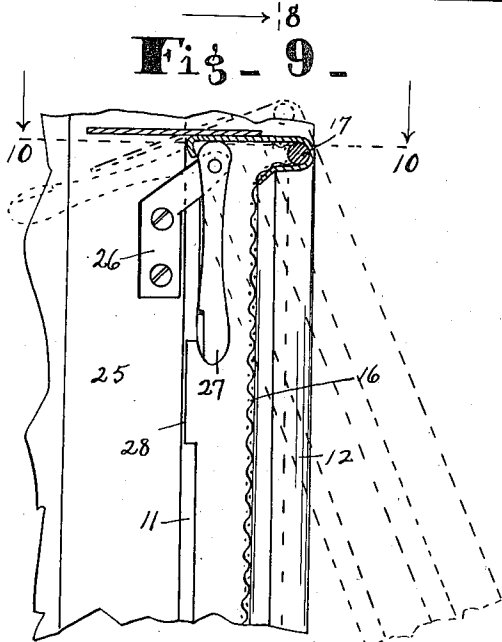


Fig - 10 -

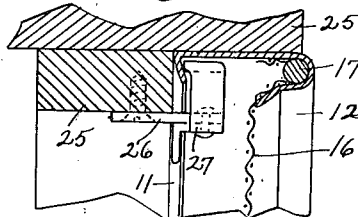


Fig - 11

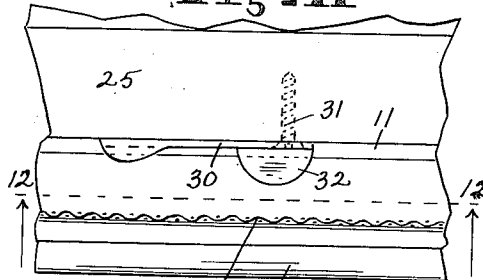
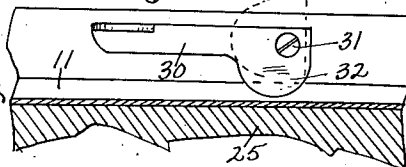


Fig - 12 -



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UNITED STATES PATENT OFFICE.

JACOB S. SPEER, OF SPRINGFIELD, MISSOURI.

WINDOW-SCREEN.

975,172.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed September 22, 1909. Serial No. 518,912.

To all whom it may concern:

Be it known that I, JACOB S. SPEER, of Springfield, county of Green, and State of Missouri, have invented a certain new and useful Window-Screen; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is to improve the construction of window screens and the like to render the same simple, durable and easy to manipulate and mount. The frame of said screen is of sheet metal and the other parts of metal, so that there is no wood, and when the metal parts are made non-corrosive, the window screen is sanitary and extremely durable, as no part thereof can decay, and it also presents an attractive appearance.

The chief feature of the invention consists in taking a straight strip of sheet metal and forming it with a pair of oppositely extending flanges along each edge so as to oppose each other and leave a channel between them, then bending this strip so formed into a rectangular frame of the desired dimensions. The edges of the wire fabric project into the channel of the frame and over the wide flange thereof which is formed with a groove. A rod is placed in said groove upon the fabric, and a number of oval disks, which are separate from the frame, are inserted in the channel narrow-wise and turned by a wrench so as to wedge between the rod binding the wire fabric and the opposite flange of the frame. This simultaneously stretches and binds securely the wire fabric, and it is very readily released by merely turning the disks slightly to loosen the same. The frame, wire fabric, binding rod and oval disks are all entirely separate from each other until assembled and then merely frictionally engage each other, so that there are no screws, nails, springs or similar objectionable fastenings.

Another feature of the invention consists in the means for mounting this wire screen. An arm is secured to the side of the window casing so as to project over the channeled sides of the window screen frame when inserted in the window casing, and a lever is pivoted to the projecting end of each arm with a head turned U-shaped substantially so that the extreme end of the head projects into the channel of the window screen frame

and catches behind the flange thereof. In order to insert the window screen frame over said levers, the inner flange of the window screen frame is cut away at suitable points. A releasable fastener is provided for securing the lower end of the window screen to the window casing. With this construction the window screen is very quickly secured to or moved from the window casing, and what is probably of more practical importance, the lower end of the window screen can be released and pushed outwardly for letting out flies, dust or dirt, and during such operation the window screen will remain suspended at its upper ends from said levers.

The nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a front elevation of the window screen. Fig. 2 is a perspective view of the upper left-hand corner of the screen inverted, parts being broken away. Fig. 3 is a section on the line 3-3 of Fig. 1. Fig. 4 is a perspective view of an oval disk. Fig. 5 is a plan view of a portion of the top of the window screen. Fig. 6 is a perspective view of a portion of the metal strip for forming the frame cut ready to be bent into position, and the bent position being indicated by dotted lines. Fig. 7 is a front elevation of the screen in a window casing, the upper portion of the window casing being broken away. Fig. 8 is a section on the line 8-8 of Fig. 7, the screen being shown pushed outwardly at the lower end by the dotted lines. Fig. 9 is an enlarged view of what is shown in the upper part of Fig. 8. Fig. 10 is a horizontal section on the line 10-10 of Fig. 9. Fig. 11 is a section on the line 11-11 of Fig. 8. Fig. 12 is a section on the line 12-12 of Fig. 11.

The window screen is provided with a frame 10 made preferably of a strip of sheet metal formed with a narrow flange 11 on one side and a wider flange 12 opposite thereto on the other edge, the two flanges opposing each other and therefore projecting in the same direction relative to the body of the strip. This leaves between the two flanges a channel extending longitudinally thereof. The narrow flange 11 is turned beyond a right angle to the body of the strip. The wide flange 12 is shaped like molding on the outside, and therefore has a

longitudinal groove formed by it and the body of the strip. The strip of material thus formed is originally straight like a bar and it is cut away at 14 and bent into a rectangular frame, the three corners being bent at right angles and one corner being formed by the overlapping adjacent ends of the strip secured by rivets 15.

The wire fabric 16 is cut with dimensions substantially the same as the external dimensions of the frame and it is placed in the frame with its edges lying upon the wide flange 12 and over the groove between it and the body of the strip. Then the rods 17 are laid upon the edges of the wire fabric, one on each of the four sides. Oval disks 18 are placed in the channel and they are provided with rectangular holes 19 for the insertion of a tool or wrench for turning same and are made of such dimensions that the narrow diameter is less than the space between the rod 17 and the flange 11 of the frame, while the greater diameter is slightly in excess of said distance, so that the disk can readily be inserted and turned and wedged tightly in the channel between the rod 17 and the flange 11 of the frame. In order to strengthen the hold of said disks, they are beveled on the periphery, the wider side of the disks being placed against the body of the frame, and since the flange 11 overhangs somewhat, they will not escape from said flange nor from the rod, as they tend to press the rod outwardly somewhat against the flange 12 and wedge in between said rod and the body of the frame. Therefore, the essential part of the window screen consists of the channeled frame, the wire fabric, the rods 17 and the disks, all independent of each other before assemblage and each made of metal, and the parts may be easily assembled and as easily separated. This makes the window screen very simple and durable, especially when the metal parts are made non-corrosive as they should be. And the window screen, as a whole, is superior to the ordinary wooden framed screens.

On one end there is a cover plate 21 adapted to close the space between the top of the window screen and the window sash. It has in it transverse slots 22 for screws 23 which extend from the frame 10, whereby the plate 21 is adjustably secured in place to accommodate itself into a particular window casing.

25 is a window casing and on each side an arm 26 is secured that projects outwardly at an upwardly inclined angle to point in front of the channel of the frame. On the outer end of said arm a lever 27 is pivoted between its ends, one end being relatively long to be manipulated and the other end formed into a head that is first bent at a right angle from the body of the lever so as to project into the channel of the window screen when in place,

see Fig. 10, and the extreme end of the head is turned laterally so as to project behind the flange 11 of the window screen frame when in place. This makes the head of the lever substantially U-shaped. The flange 11 of the window screen frame is cut away at 28 so that said frame may be placed over the heads of said levers in inserting the window screen into the casing. Then the window screen frame is lowered somewhat to the limit, said holding devices being located at the upper end thereof and the levers actuated so that the heads thereof firmly bind the frame of the window screen frame against the window casing and hold the same tightly in place.

The lower end of the window screen frame is held in position by the catch lever 30 which is pivoted to the lower part of the window casing by the pin 31 and has one end lengthened for manipulation and on the other end there is a laterally bent head 32 adapted to enter the channel of the frame of the window screen and bind the flange 11 thereof against the window casing.

For letting flies or dust out, the lower fastening may be disengaged and the lower part of the window screen pushed outwardly. During that operation the window screen will be suspended from the heads of the levers 27 above. The window screen can be then pushed back and fastened on the lower fastener.

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

1. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

2. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and oval disks adapted to be placed in said channel and when turned therein to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

3. A window screen including a rectangular frame formed of a bar of sheet metal and having inwardly extending flanges along each edge to form a channel between them, certain corners of said frame being formed by bending said bar, a fabric with the edges thereof extending into said channel against

one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

4. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, one of said flanges being wider than the other and provided with an inner concave surface or groove, a fabric with the edges thereof extending over said wider flange and into said groove, a rod in and extending longitudinally of said channel and resting upon the fabric in the groove of said wider flange, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

5. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and oval disks adapted to be placed in said channel and when turned therein to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame, said disks being provided with central angular openings for the insertion of a wrench to turn the same.

6. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and oval disks adapted to be placed in said channel and when turned therein to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame, the periphery of said disks being beveled and the wider surface of the disks being adapted to be placed adjacent to the body of the frame.

7. The combination with a window casing, of a window screen provided with a frame

flanged to provide recesses in the inner surfaces thereof, arms secured to the window casing and projecting beside the inner surfaces of the frame of the window screen adjacent to said recesses, and a lever pivoted on the end of each arm with the head thereof projecting into the recess of the frame of the window screen in position when the lever is actuated to bind and hold the frame of the window screen against the window casing.

8. The combination with a window casing, of a window screen provided with a frame flanged to provide recesses in the inner surfaces thereof so as to have a flange along the edge of the frame, arms secured to the window casing and projecting beside the inner surfaces of the frame of the window screen adjacent to said recesses, and a lever pivoted at the end of each arm with the head thereof bent substantially U-shaped and the extreme end of said head projecting into the recess behind the flange of the frame, said flanges being cut away at suitable points for placing the screen frame over the heads of said levers.

9. The combination with a window casing, of a window screen provided with a frame flanged to provide recesses in the inner surfaces near the upper end thereof, arms secured to the sides of the window casing and projecting beside the inner surfaces of the frame of the window screen adjacent to said recesses, a lever pivoted on the end of each arm with the head thereof projecting into the recess of the frame of the window screen in position when the lever is actuated to bind and hold the frame of the window screen against the window casing, and means for detachably securing the lower ends of the window screen to the window casing, whereby the lower part of the window screen may be released and pushed back from the casing while the window screen is supported by said levers at the top.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

JACOB S. SPEER.

Witnesses:

G. H. BOINK,

O. M. McLAUGHLIN.