A. FLINK.

SHEET METAL WINDOW SCREEN.

APPLICATION FILED JULY 25, 1910.

1,029,352.

Patented June 11, 1912.

Fig. 1

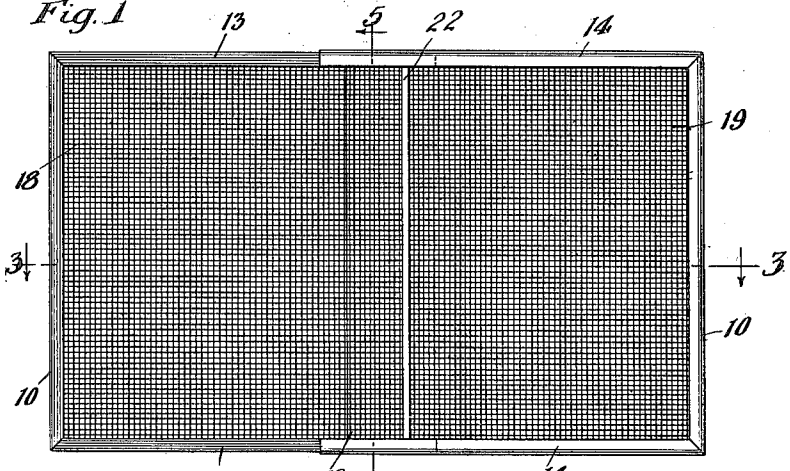


Fig. 2

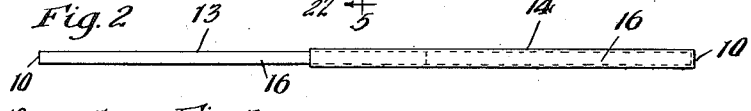


Fig 3

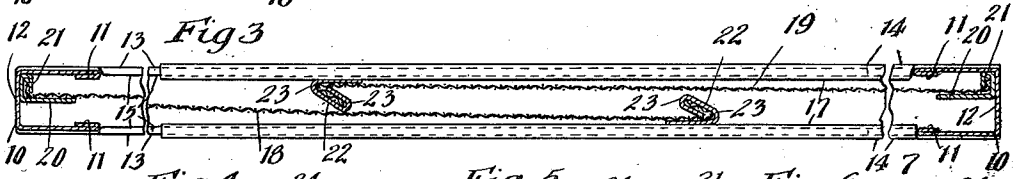


Fig. 4

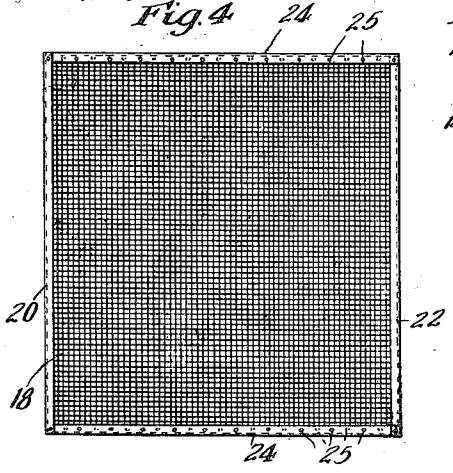


Fig. 5

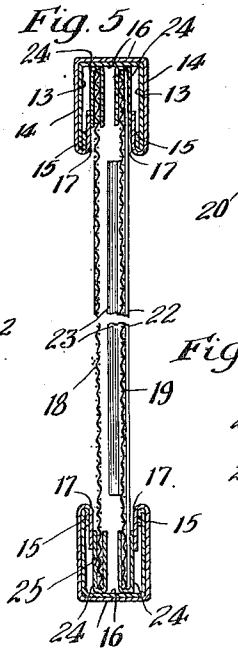


Fig. 6

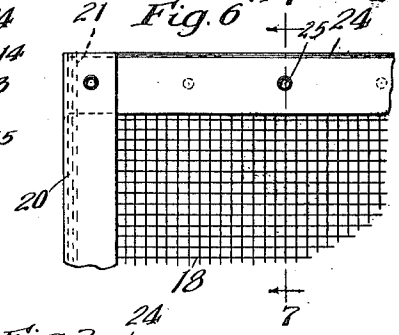
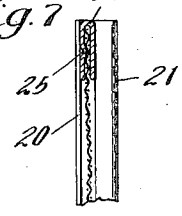


Fig. 7



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UNITED STATES PATENT OFFICE.

ABE FLINK, OF CHICAGO, ILLINOIS.

SHEET-METAL WINDOW-SCREEN.

1,029,352. Specification of Letters Patent. Patented June 11, 1912.

Application filed July 25, 1910. Serial No. 573,783.

To all whom it may concern:

Be it known that I, ABE FLINK, a subject of the Empire of Russia, but having declared my intention of becoming a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Sheet-Metal Window-Screens, of which the following is a specification.

This invention relates to an improvement in window screens made of sheet metal and wire netting united together; and it consists in the devices and parts and combinations of parts and devices hereinafter described and claimed and substantially shown in the accompanying drawings which form a part of this specification, and in which—

Figure 1 is a side elevation of a screen embodying my invention; Fig. 2 is a top or plan view of the same; Fig. 3 is a horizontal section on the line 3, 3 of Fig. 1; Fig. 4 is a view of one of the inner frames and its wire netting removed from the outer frame; Fig. 5 is a vertical section on the line 5, 5 of Fig. 1; Fig. 6 is a fragmentary view of a part of the inner horizontal edge framing of the wire netting; Fig. 7 is a section of the same on the line 7, 7 of Fig. 6; Figs. 3, 5, 6 and 7 are upon a larger scale than the Figs. 1, 2 and 4.

The frame-work of my improved window-screen is made entirely of sheet metal, and preferably of galvanized iron since that material is cheap and may be obtained, in the narrow strips I require, in the form of waste material that cannot be used for many other purposes; moreover it wears well, looks well in its natural color, and takes paint, varnish or enamel well if a different color be desired. But if extreme durability be sought, as where bronze netting is to be framed, sheet copper or bronze may be used as the material at a greater expense. In addition to the extra durability due to the employment of sheet metal for the framing there is an advantage in the freedom from warping, swelling, shrinking and checking and where waste strips of galvanized iron are used as the material in the cheapness of the screen as a whole, over the ordinary wooden or partly wooden framed screens.

In said drawings 10, 10, are the end frame pieces each made of a strip of sheet metal folded into U-shape or to form three sides of a rectangle, the two free parts being double as indicated at Fig. 3, the infold 11 at each free part being set down firmly to the inside of the rectangle, and the intermediate part 12 being trued and squared to fit the window casing. To each of these end frame pieces is secured,—by soldering, riveting, or otherwise,—the top and bottom frame pieces, 13, 13, 14, 14, each also made of a strip of sheet metal folded into U-shape or to form three sides of a rectangle, the two free parts being double as indicated at Fig. 5, and the infold 15 of one pair of said side pieces at each free part being set down firmly to the inside of the rectangle, the intermediate part, 16, being trued and squared to fit the window or its casing, while the infold 17, of the other pair is left far enough open so that the two pairs of side pieces may telescope together in the manner indicated at Fig. 5 of the drawing, where it will be noted that, not only does the smaller side piece pass within the larger, but also that the tight set infolded part of said smaller part passes within the more open infolded part of the larger side piece. This construction makes a firm union of the two parts of the adjustable screen, prevents jamming or getting out of line and sticking and holds the entire frame square and rigid while being adjusted and after adjustment, and yet leaves the parts free to be smoothly adjusted to different sizes as required by the user. The outer frame, thus constructed, consists, as will be seen, of two principal parts, an end piece and a top and bottom piece, so that when the two parts are put together, the top and bottom pieces of one part telescoping with the top and bottom pieces of the other part, the whole forms a rectangular frame expansible or adjustable as to length to fit any ordinary window opening. So much for the outer framework.

The two wire netting sheets 18, 19, are edged on all four sides with an inner framework each comprising an outer end piece 20 to which the netting is secured by a double fold 21 set down close upon the netting, and an inner end piece 22 to which the netting is secured by a double fold 23 the folded part being set down close upon the netting at the fold only, and the fold bent outwardly at an angle from the plane of the sheet as seen at Fig. 3, so as to come near the plane of the other sheet of netting, and thus close the space between the two insect-

tight, and also so as to act as a stop or lock to prevent separation when the two sheets of netting and the frame are drawn apart or expanded. And further each comprising a bottom and a top edging or hem piece 24, 24, consisting of a strip of metal in a single fold pressed on the edge of the netting and secured at the ends by soldering, riveting or otherwise to the inner and outer end pieces 20, 22. To secure the netting to these folded strips 24, 24 I set a pointed punch against the strip and strike it a light blow, just enough to drive the metal into the meshes of the netting in the form of a depression or teat 25,—see Figs. 4–6 and 7. This being done on alternate sides of the strip at intervals serves to securely lock the strip and netting together.

What I claim and desire to secure by Letters Patent is,—

In a metallic window screen the combination of two frames each having longitudinal top and bottom U-shaped members, one of the said frames being inclosed and arranged to slide within the other, the inner of said frames having a tight set infold 15 and a netting secured therein, and the outer of said frames having a more open infold 17 and a netting secured therein, whereby one frame may work within the other without getting out of line or jamming, the frames having also the vertical inner members each of which is formed with a double fold 23, the folded part being set down close upon the netting at the fold only and the fold being bent outwardly at an angle from the plane of the sheet so as to come near the plane of the other sheet of netting, substantially as and for the purposes described.

ABE FLINK.

Witnesses:
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