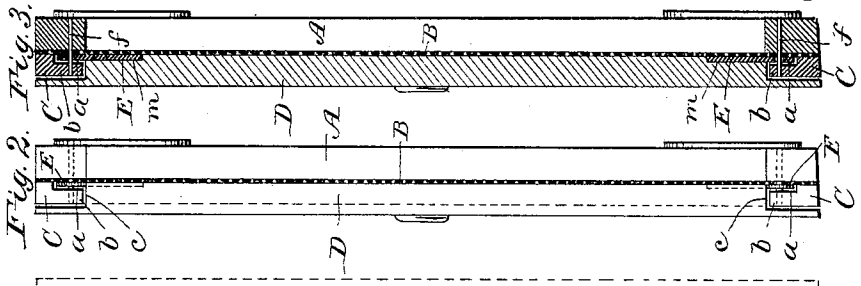
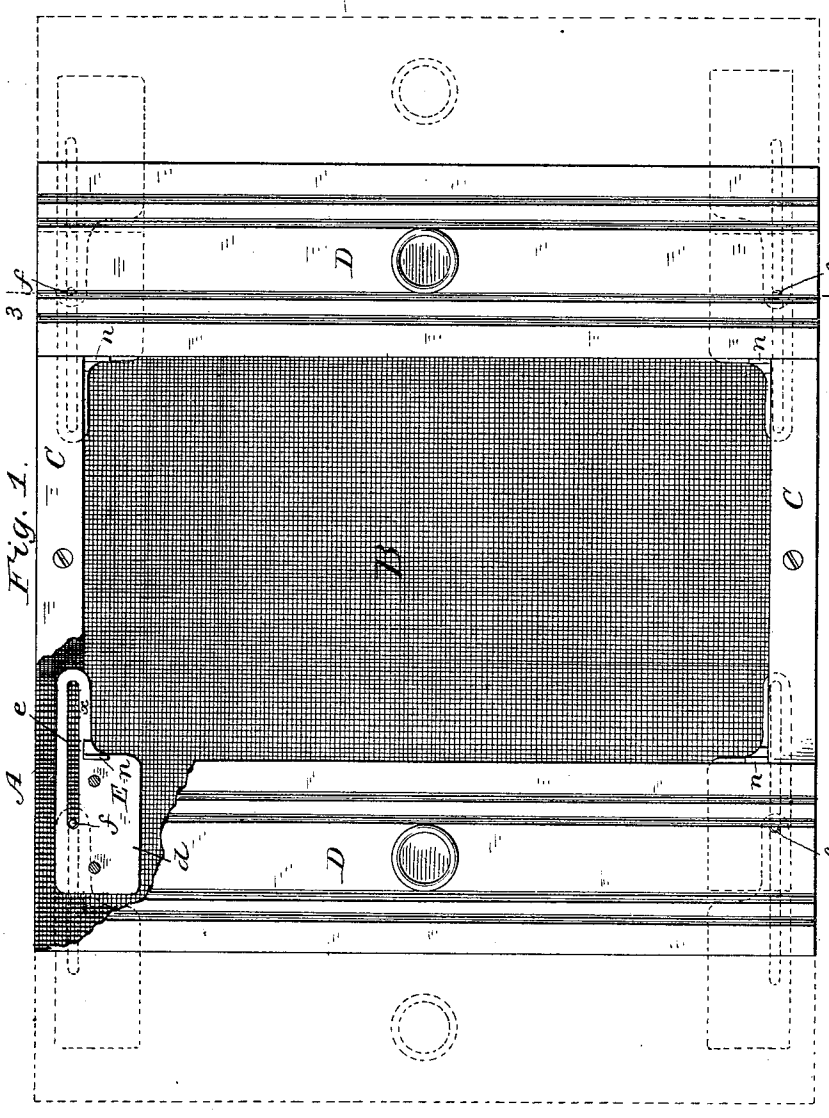
(No Model.)

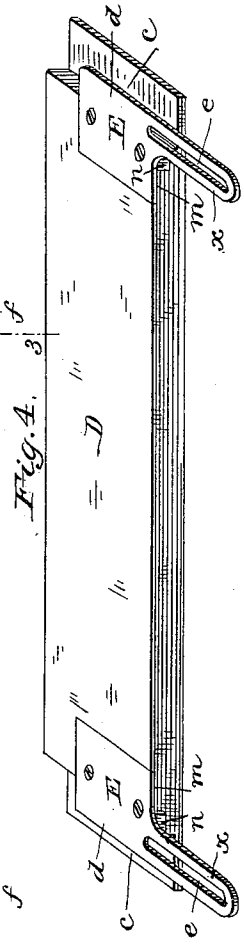
E. L. GRAY.

EXTENSION SCREEN.

No. 388,276. Patented Aug. 21, 1888.







Witnesses:
Ewell A. Dick
Marvin A. Custis.

Inventor
Edwin L. Gray
by Marcellus Bailey
his attorney.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

EDWIN L. GRAY, OF BURLINGTON, VERMONT, ASSIGNOR TO THE PORTER MANUFACTURING COMPANY, OF SAME PLACE.

EXTENSION-SCREEN.

SPECIFICATION forming part of Letters Patent No. 388,276, dated August 21, 1888.

Application filed January 29, 1887. Serial No. 225,881. (No model.)

To all whom it may concern:

Be it known that I, EDWIN L. GRAY, of Burlington, in the State of Vermont, have invented a new and useful Improvement in Extension-Screens, of which the following is a specification.

This improvement relates to that kind of extension-screen described and shown in Letters Patent No. 355,605, dated January 4, 1887—that is to say, a screen in which the screen-frame is combined with guide-rails provided with guide-grooves on their interior opposite edges, sliding extension-strips overlapping the guide-rails externally and provided on their inner faces with tongues and grooves to engage those of the guide-rails, and stops to limit the movement of said strips. In the said patented device the tongues and grooves on the extension-strips are formed of the same material which constitutes the strips themselves, the tongues being in one with the strips. My improvement consists in forming said tongues of metal, said metal bounding also one side of the grooves and being applied and secured to the inner faces of the strips at or near the ends of the latter. The advantages due to the improvement are increased stability of the article and the obtaining of tongues which slide truly and without danger of cramping, liability to which latter exists with the wooden tongues, owing to the warping of the material of which they are made.

To ascertain more definitely and particularly the nature of my improvement, reference may be had to the accompanying drawings, in which—

Figure 1 is a plan of the screen with parts of it broken away, the sliding extension-strips being represented by dotted lines in extended position. Fig. 2 is an end elevation of the screen. Fig. 3 is a section on line 3 3, Fig. 1. Fig. 4 is a perspective view of one of the extension-strips, looking at its inner face.

A is the screen-frame. B is the wire gauze or netting secured upon one face thereof. C represents the two parallel guide-rails secured to opposite bars of the frame and provided at their ends in their interior opposite edges next to the screen with guide-recesses *a*, which form grooves bounded on one side by the screen-frame and on the other side by the rails. The parts *b* adjoining the grooves form tongues to enter grooves in the sliding extension-strips. Driven through the screen frame, so as to extend crosswise of the grooves, are stop pins or studs *f*.

Thus far the structure is substantially the same as that described and illustrated in Letters Patent No. 355,605, above referred to.

Between the guide-rails C and at opposite ends of the screen-frame are mounted the sliding extension-strips D. These strips (as in the aforesaid patented device) equal in length the sides of the frame to which they are applied and overlap the guide-rails. They also are tongued and grooved at each end; but the tongues and grooves are formed not wholly in and of the wooden strips themselves, but by metal plates E. Each strip has in its inner face at each end a recess of a depth equal to that required for the groove. A second recess, *m*, below the one first above mentioned is also provided of such dimensions as will permit the metal plate E when applied thereto to be about flush with the inner face of the extension-strip. The metal plate is fitted to and secured in the recess by screws, as shown, or other suitable means, in such position that its upper edge will project far enough above the bottom of the guide-recess in the extension-strip to form a tongue, *d*, which converts the guide-recess into a guide-groove, *c*, the inner side of which is bounded by said tongue. In the metal plate is also formed a longitudinal slot, *e*, through which the stop-pin *f* passes. The length of the slot limits the extent of sliding motion of the strip D.

I remark here that the lower portion, *x*, of the plate between the ends of the slot can be cut away, if desired.

In order to provide means by which the proper position of the plate E in the strip D can be readily ascertained and assured, I provide it on its front face with a shoulder or projecting pin, *n*, which projects at right angles to the plate and stands in a line at right angles to the upper longitudinal edge of the tongue portion of the plate. When the plate is fitted to the strip, this shoulder or pin should rest against the inner longitudinal edge of the

strip D, with its upper or outer end flush with the bottom of the guide-groove *c*. When thus placed, the plate E is in the position which it should occupy on the strip.

Having described my improvement, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the screen-frame and the guide-rails C, provided with tongues and grooves on their interior opposite edges, as described, of the sliding extension-strips D, overlapping the guide-rails externally and formed on their inner faces with guide-recesses, the slotted metal plates E, secured to the inner faces of said strips, so that their upper longitudinal edges shall project above the bottom of said guide-recesses to form guide-tongues which bound said recesses on one side, and the stop pins or studs secured to the screen-frame and extending crosswise through the slots in said plates, as and for the purposes hereinbefore set forth.

2. The slotted metal guide-plates E, formed with shoulders *n*, in combination with the recessed extension-strips D, the guide-rails C, the screen-frame, and the stop-pins, these parts being constructed and arranged for joint operation as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 27th day of January, 1887.

EDWIN L. GRAY.

Witnesses:

WILLIAM H. H. CONNER,

THEODORE S. PECK.