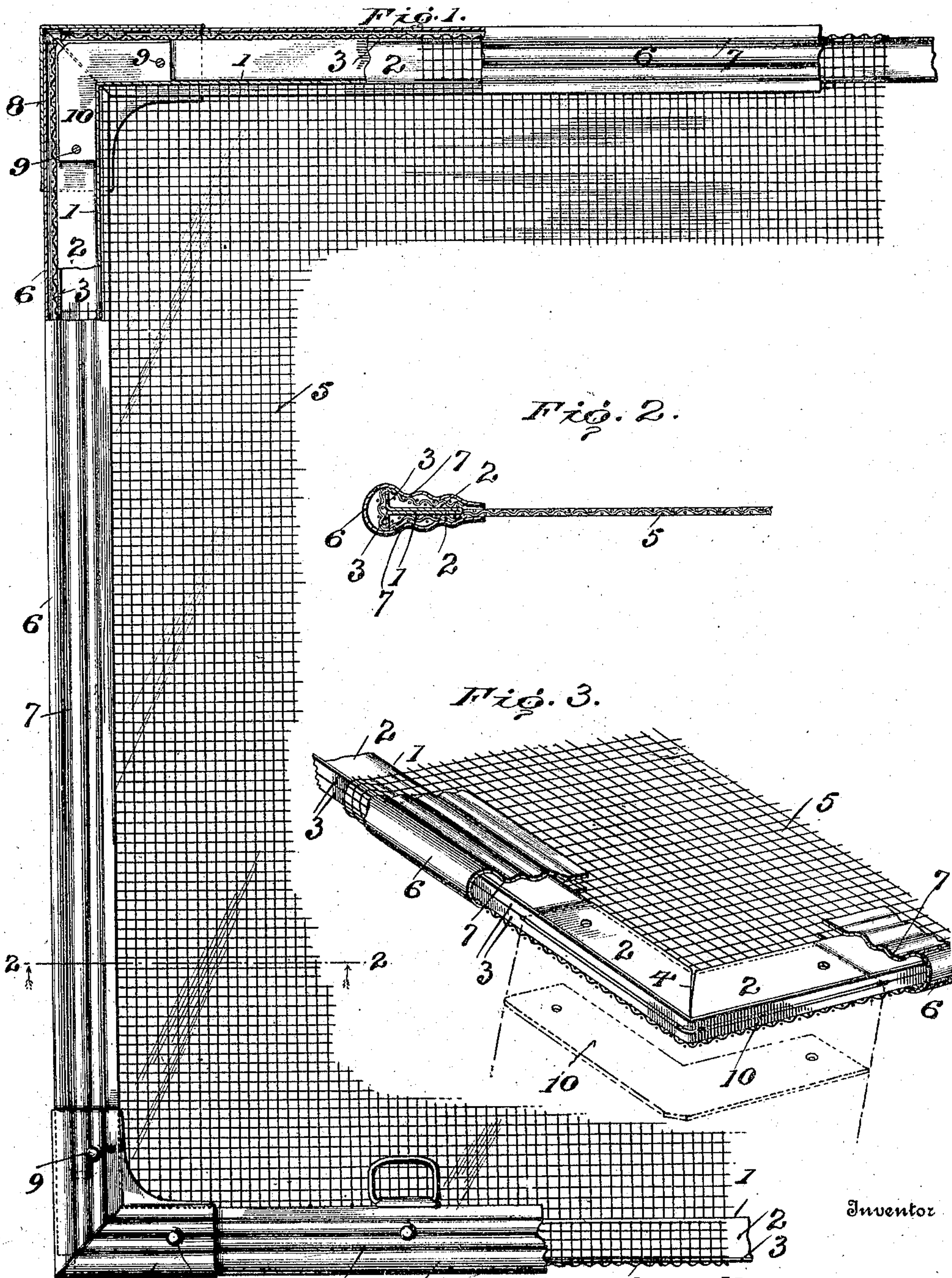


No. 885,097.

PATENTED APR. 21, 1908.

H. G. STEELY.  
WINDOW SCREEN.

APPLICATION FILED AUG. 7, 1907



Witnesses

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# UNITED STATES PATENT OFFICE.

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## WINDOW-SCREEN.

No. 885,097.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed August 7, 1907. Serial No. 387,518.

*To all whom it may concern:*

Be it known that I, HARRY G. STEELY, citizen of the United States, residing at city of Washington, District of Columbia, have  
5 invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

This invention comprehends new and useful improvements in that durable and efficient type of all-metal screens for windows and the like, in which the agent or element over which the screen-cloth is stretched, remains as a permanent part of the screen-frame, the cloth being maintained taut by  
15 metallic binding or clip members, which embrace the said stretching element and tightly clench and hold in crimped condition, those portions of the screen-cloth that are lapped over such element.

The present invention has for its primary object certain improvements in screens of the character before mentioned, whereby to produce a structure possessing to a high degree the characteristics of durability and  
25 rigidity as against bending, torsional, or other stresses under severe use, without sacrificing lightness to gain strength. And a further object of the invention is an improved construction and arrangement of the stretching and holding element for the screen-cloth, said element being rust-proof and holding the screen-cloth stretched in such a manner that all possibility of "bellying" is precluded.

With these and other objects in view, as  
35 will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and then point out the novel features and arrangements thereof in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and  
45 the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is an elevation, with parts broken away and other parts in section, of a portion  
50 of a window screen embodying the improvements of my invention; Fig. 2 is a transverse sectional view, the section being taken approximately on the line 2—2 of Fig. 1; and, Fig. 3 is a detail sectional perspective view of  
55 one corner of the screen.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The stretching or holding element 1 for the screen cloth is constructed, according to the principles of my invention, and in the manufacture of the screens, by bending or doubling upon itself in a longitudinal direction, a metallic strip or sheet of the requisite or desired  
60 length and width, the edges of the two members 2 of the strip being bent outwardly in opposite directions, to form the outstanding flanges 3, as best seen in Fig. 2. The doubled strip is then cut at the points where the  
65 corners of the screen-frame are to be formed, slits 4 being produced, as best seen in Fig. 3, so as to produce a mitered joint at the corners, the metal being sufficiently pliable and yet tenacious to permit of the angular bend-  
70 ing to form a corner, while the flanges 3 remain integral and continuously connected together. The ends of the doubled strip, after it has been bent to form the proper rectangular structure, may obviously be brought  
75 together at any desired point, that is, the meeting ends of the strip may be located at any point in the top or bottom, or either of the two sides of the complete screen.

The screen-cloth 5 has its edges lapped  
80 over the stretching and holding element 1, as best seen in Fig. 2, so as to produce a decided shoulder at the edges of both flanges 3. In order to hold the screen stretched over the stretching and holding element 1, I provide  
85 the metallic binding or clip members 6, of iron or sheet metal, adapted to be bent to retain the form imparted to it, said binding or clip members being placed around the stretching and holding element 1 in such a  
90 manner as to closely embrace the same and clench and hold the stretched screen-cloth. It is to be particularly noted that the binding or clip members 6 are provided with crimps or corrugations 7 which securely clench the  
95 overlapping portions of the screen-cloth and securely prevent the latter from "bellying," even after continued and severe use, the said members 6 also preferably engaging or contacting with the screen cloth at the outer  
100 edges of the flanges 3, as clearly illustrated in Fig. 2, so as to assist in this binding action. Corner pieces 8 are then placed over the meeting ends of the binding or clip members 6 and riveted thereto, as indicated at 9.



If desired, corner braces 10 of substantially L-shape, as best seen in Figs. 1 and 3 may be inserted between the complementary members 2 of the element 1 at the corners so as to extend across the mitered joint 4, the rivets 9 extending through the two ends of these corner braces and thereby assisting in strengthening the structure. I do not regard these corner pieces as essential to the success of my invention, but they possess manifest advantages, and may be easily applied and used, if found desirable.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a screen in which the screen-cloth is securely gripped by the binding or clip members 6, the overlapping portions of the screen-cloth forming distinct angles or shoulders around the substantially T-shaped stretching and holding element, so that the completed structure will be capable of withstanding hard usage without breaking down or bending, and without permitting the screen-cloth to become loose.

It is to be understood that my invention is not limited to any particular metal out of which to form the stretching and holding element 1. Manifestly, the inherent construction of this element with its two plies or members 2 in contact with each other and its laterally extending and outstanding flanges 3, results in a substantial structure, the flanges resisting any bending or torsional strain which would otherwise be possible. Hence, zinc may be employed for this element, as it is absolutely rust-proof and as its natural pliability is overcome by the arrangement of parts just noted, or, if desired, the element 1 may be composed of sheet iron or steel coated or galvanized to resist the action of the elements.

Having thus described the invention, what is claimed as new is:

1. A screen, comprising a screen cloth and frame therefor, the frame embodying a stretching and holding element over both sides of which the edges of the screen cloth are lapped, said element being provided along its outermost edge with longitudinally extending and outstanding flanges, and binding or clip members embracing and enclosing said stretching element, and gripping the screen cloth against the edges of the flanges.

2. A screen, comprising a screen cloth and frame therefor, the latter embodying a stretching and holding element consisting of a sheet doubled upon itself longitudinally and provided at its edges with outstanding flanges, the edges of the screen-cloth overlapping the said element and extending around the flanges thereof, and binding or clip members embracing the said element and gripping the screen-cloth thereto.

3. A screen comprising a screen-cloth and

frame therefor, the latter embodying a stretching and holding element consisting of a strip doubled longitudinally upon itself and provided at its edges with outstanding flanges, the edges of the screen-cloth extending around said element and forming shoulders at the flanges thereof, and binding or clip members embracing the said element and formed contiguous to and on the inner sides of the flanges with crimps designed to grip the screen-cloth around the flanges.

4. A screen, comprising a screen-cloth and frame therefor, the latter embodying a stretching and holding element consisting of an integral strip doubled upon itself and provided at its outer edges with outstanding flanges, said strip being provided at intervals with slits adapted to form miter joints at the corners, the slits extending from the inner edge of the strip and terminating at, but short of, the flanges, whereby the flanges extend continuously around the frame, the screen-cloth having its edges overlapping said element, and binding or clip members embracing the said element and gripping the screen-cloth thereto.

5. A screen, comprising a screen-cloth and frame therefor, the latter embodying a stretching and holding element consisting of a strip doubled longitudinally upon itself and provided at the corners with slits forming mitered joints, the free edges of the said element being disposed outermost, the screen-cloth overlapping at its edges the said element, binding or clip members embracing said element and gripping the screen-cloth thereto, corner pieces embracing the binding members at the corners of the frame, corner braces adapted to be slipped inwardly between the two portions or plies of the stretching element at the corners, and fastening devices securing the said corner brace at its ends to the said element at opposite sides of the joint.

6. A screen, comprising a screen-cloth and frame therefor, the latter embodying a stretching and holding element consisting of a strip doubled longitudinally upon itself and provided at the corners with slits forming mitered joints, the free edges of the said element being disposed outermost, the screen-cloth overlapping at its edges the said element, binding or clip members embracing said element and gripping the screen-cloth thereto, corner pieces embracing the binding members at the corners of the frame, corner braces adapted to be slipped inwardly between the two portions or plies of the stretching element at the corners, and rivets extending through the corner pieces and binding members and also through the ends of the corner brace and stretching element at opposite sides of the joint.

7. A screen comprising a screen cloth and frame therefor, the latter embodying a



stretching and holding element consisting of  
an integral strip provided at its outer edge  
with outstanding flanges and formed at inter-  
vals with slots adapted to form miter joints  
5 at the corners, the slots extending from the  
inner edge of the strips and terminating at  
but short of the flanges, whereby the flanges  
extend continuously around the frame, the  
screen cloth having its edges overlapping

said element and binding or clip members 10  
embracing the same and gripping the screen  
cloth thereto.

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

HARRY G. STEELY. [L. S.]

Witnesses:

W. J. LAWDER,

JOHN F. A. BECKER.