

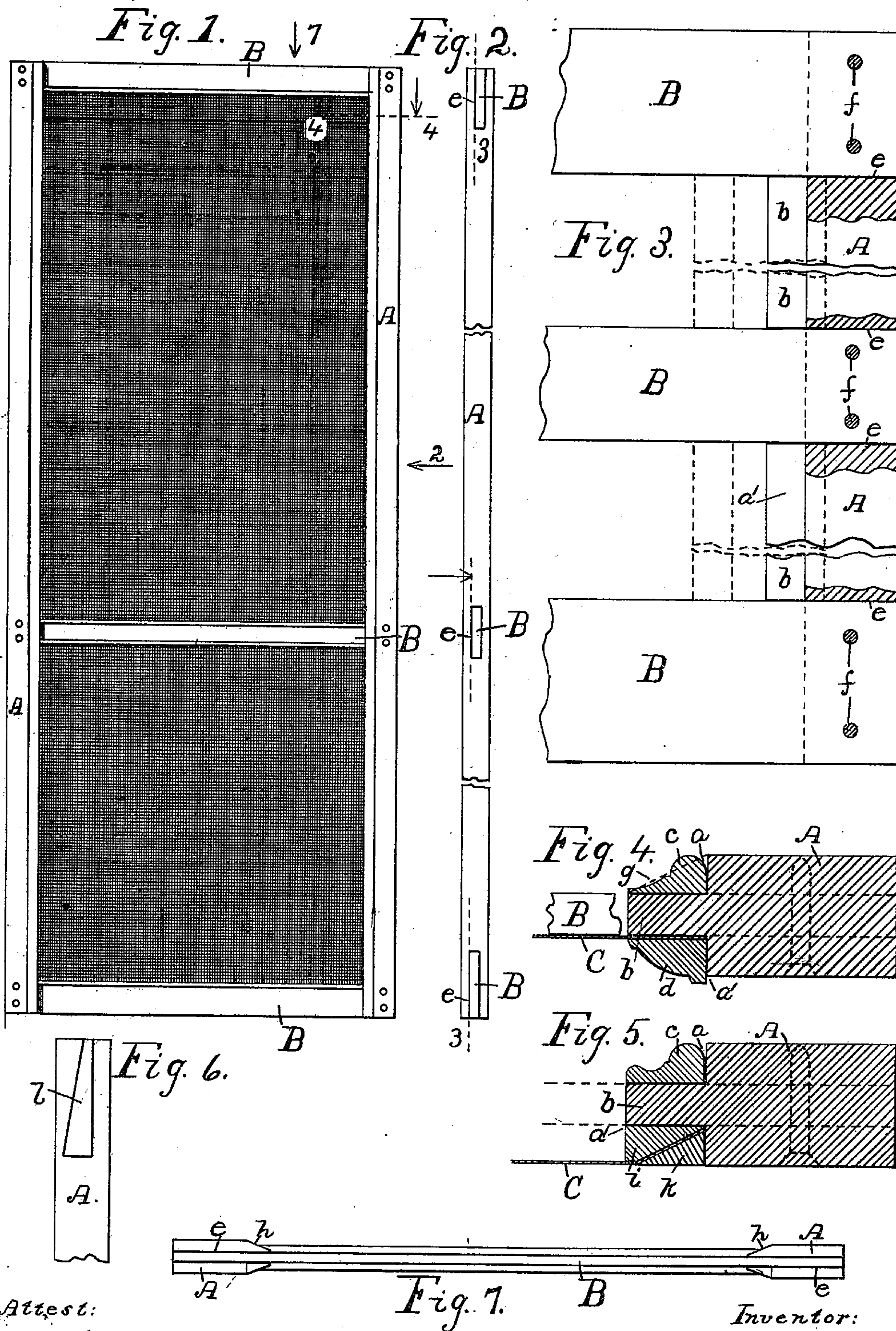
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Patented Apr. 9, 1901.

S. J. HORCHELER.
SCREEN FOR DOORS OR WINDOWS.

(Application filed Oct. 27, 1900.)

(No Model.)



Attest:

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UNITED STATES PATENT OFFICE.

SOLOMON J. HORCHELER, OF ROCHESTER, NEW YORK.

SCREEN FOR DOORS OR WINDOWS.

SPECIFICATION forming part of Letters Patent No. 671,928, dated April 9, 1901.

Application filed October 27, 1900. Serial No. 34,572. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON J. HORCHELER, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Screens for Doors or Windows, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is an improved screen for windows or doors of buildings; and one object of the invention is to produce a screen of simple parts and without flush joints, so that it may be more rapidly and cheaply constructed than has heretofore been done.

A further object of the invention is to construct a screen of the class of knockdown structures the parts of which may be made complete and packed for handling or shipment and readily assembled to form a complete structure; and a further object of the invention is to produce a screen that may be conveniently changed in width to fit given openings.

The invention consists in parts and pieces and the joining of the same, all hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a front elevation of the device, shown adapted for a door. Fig. 2 is an edge view with parts broken out, seen as indicated by arrow 2 in Fig. 1. Fig. 3 is a front elevation of parts of the screen-frame, further showing its construction, parts of the stile being in longitudinal section, as on the dotted line 3 3 in Fig. 2. Fig. 4 is a transverse section of the right-hand stile and some associated parts on the dotted line 4 4 in Fig. 1. Fig. 5 is a similar section of the parts, showing the wire screen flush with the face of the frame. Fig. 6 is an edge view of a part at the upper end of the frame, showing a slight difference in the form of the rail. Fig. 7 is a view on top of the frame, indicated by arrow 7 in Fig. 1. Fig. 1 is drawn to a scale smaller and Figs. 3 to 7, inclusive, to various scales larger than that of Fig. 2.

Referring to the parts shown, A represents the stiles of the frame, and B the rails, C being the screen proper, of any common kind or material, as wire sheets. The stiles A A are both usually formed with rabbets *a a'*,

Fig. 4, at their inner opposing edges, leaving inwardly-projecting longitudinal tongues *b*, Figs. 3, 4, and 5. In the rabbets *a a'* are placed ornamental moldings *c d*, the latter serving to hold the wire part C when set in or depressed below the face of the frame or stiles, as shown in Fig. 4. The stiles are further formed with similar mortises *e*, Figs. 2, 3, and 7, extending through from edge to edge of the stiles and corresponding in shortest horizontal dimensions with the thickness of the tongues *b*, the latter being completely cut away opposite the respective mortises, as shown. The rails B are thinner than the stiles A A (see Figs. 4 and 7) and are of uniform width and thickness throughout their lengths, their thickness corresponding with the width of the mortises. The ends of the rails entering the mortises closely fit and fill the latter and the corresponding openings in the tongues *b*, as shown, the vertical front and rear faces of the latter and the rails and the inner faces of the mortises being in the same two vertical planes. The rails and the mortises are the same size in vertical cross-section, so that the latter will fit anywhere along the rails, the parts being usually secured in place by simple fasteners, as screws or pins *f*. The tongues reaching inward along the edges of the rails serve to form long bearing-surfaces for the rails, thus adding to the stiffness and strength of the structure, the ends of the tongues constituting practical extensions of the upper and the lower walls of the respective mortises. The inwardly-projecting tongues further serve to receive and hold the vertical edges of the screen C when the latter is depressed below the faces of the stiles of the frame, as shown in Fig. 4, the moldings *d* pressing the wire screen between them and the opposing tongues. The rails being of uniform cross-section, the stiles may be laterally adjusted along the rails, as indicated by dotted position of the stile in Fig. 3, thus serving to change the frame as to width for the purpose of fitting any given opening.

It is not essential that the inner rabbets *a* be cut in the stiles A, except for the purpose of forming spaces for receiving some ornamental moldings *c* of different-colored wood, for instance, from that of which the stiles are made, or for guided moldings, for example.

Otherwise the inner corner of each stile may be merely chamfered or beveled or otherwise formed, as shown at *h*, Fig. 7, and indicated by the inclined dotted line *g* in Fig. 4, this detail of construction being mainly a matter of fancy.

In case it be wished to construct the screen with the wire sheet *C* flush with the faces of the stiles, as shown in Fig. 5, simple beveled strips *i* are secured longitudinally to the tongues *b*, reaching out even with the faces of the stiles, the vertical edges of the wire sheet being bent down against the slant surfaces of said strips *i*. Other strips *k*, triangular in cross-section, are employed with the strips *i* to hold the wire in place. With this form of screen having the wire sheet flush with the stiles the end rails may be formed of trapezoidal cross-section, as shown at *l* in Fig. 6, the high or thick parts of the rails serving, with the side strips *i*, to hold the wire sheet out flush with the face of the frame. However, whatever form given the rails they are thinner than the stiles and of uniform cross-section throughout, so the stiles, one or both, may be shifted laterally upon them as and for the purpose already stated, this being an essential feature of my invention.

In constructing these screens the different simple parts—that is to say, the stiles, rails, and moldings—are formed rapidly at the manufactory by passing the blank strips of wood in quick succession under stickers or saws, the uniformity of cross-section of these parts permitting of this rapid formation of them. The parts after the stiles are mortised are treated with oil or paint and bunched in sets for the trade, and there being no flush joints to level off and no other fitting of joints the parts for each screen are conveniently put together without further work than to give the frame the proper width for the opening.

In constructing these screens for windows the middle rail is omitted.

What I claim as my invention is—

1. A screen for a door or window, comprising a pair of stiles formed with uniform longitudinal opposing mortises, and rails occupying said mortises, the rails being uniform or alike in size and each uniform in cross-section throughout its length, and of the same vertical cross-section as that of the mortises, the planes of the outer and the inner vertical

faces of the rails being between the corresponding planes of the outer and the inner faces of the stiles, substantially as and for the purposes specified.

2. A door or window screen having the stiles formed with equal mortises, and inwardly-projecting longitudinal tongues between the mortises, said tongues being equal in thickness with the short horizontal dimensions of the mortises, and rails occupying the mortises, of uniform cross-section throughout their lengths, the cross-section of each rail corresponding with the cross-section of a mortise, and wire sheets held by the tongues and the rails, substantially as shown and described.

3. A door or window screen having the stiles formed with equal mortises, and inwardly-projecting longitudinal tongues in line with and between the mortises, and rails in the mortises, having uniform cross-sections corresponding with the cross-sections of the mortises, the vertical faces of the rails and of the tongues being in the same planes, and wire sheets held by the rails and said tongues, substantially as shown and described.

4. A door or window screen having the stiles formed with mortises, and tongues between the mortises, the front and rear vertical faces of the tongues being respectively in the planes of the inner faces of the mortises, and rails occupying the mortises, having thicknesses corresponding with the thickness of the tongues, and wire sheets secured to the parts, substantially as shown and described.

5. A device of the kind described, having, in combination with wire sheets, mortised stiles having inwardly-projecting tongues, and rails in the mortises corresponding in vertical cross-section with the vertical cross-section of the mortises, the surfaces of the tongues being depressed below the surfaces of the stiles, and strips longitudinally of the tongues reaching out to the surfaces of the stiles, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 23d day of October, 1900, in the presence of two subscribing witnesses.

SOLOMON J. HORCHELER.

Witnesses:

ENOS B. WHITMORE,
M. B. SMITH.