Oct. 30, 1923. 1,472,069

S. T. HELGESON

ADJUSTABLE METAL FRAME

Filed Aug. 25, 1921

Fig. 4

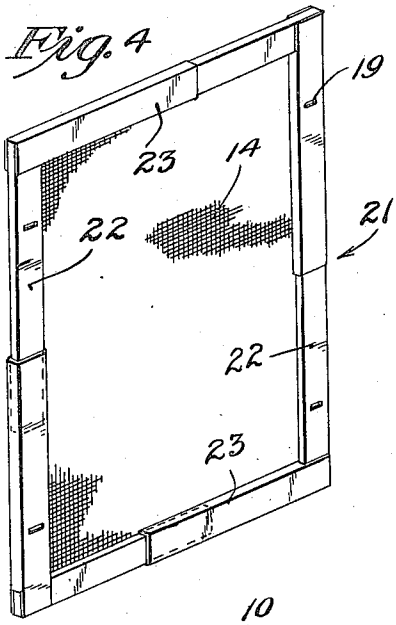


Fig. 1

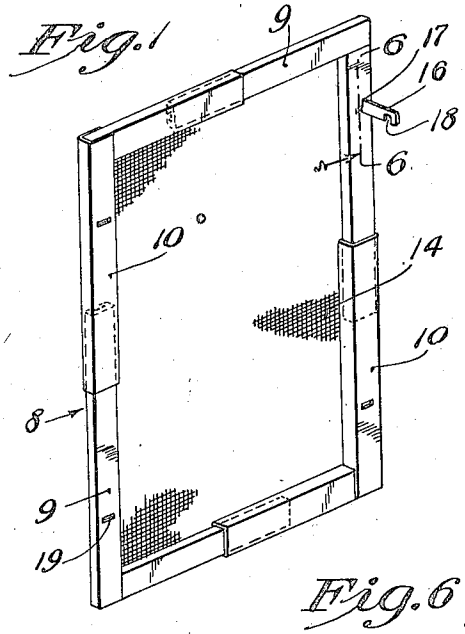


Fig. 2

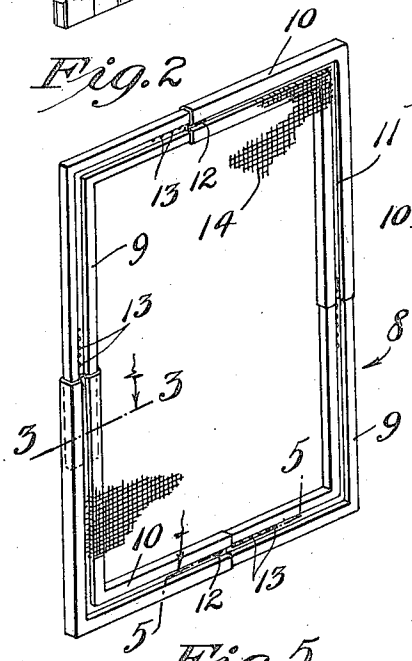


Fig. 3

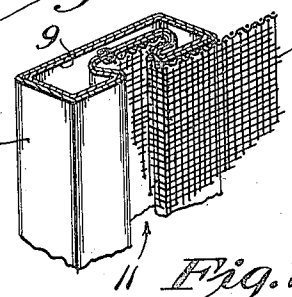


Fig. 6

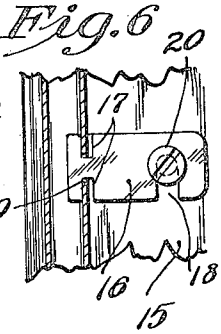


Fig. 7

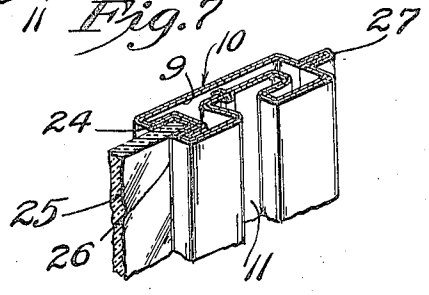
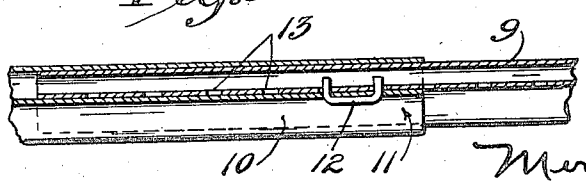


Fig. 5



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UNITED STATES PATENT OFFICE.

STINER T. HELGESON, OF MINNEAPOLIS, MINNESOTA.

ADJUSTABLE METAL FRAME.

Application filed August 25, 1921. Serial No. 495,213.

To all whom it may concern:

Be it known that I, STINER T. HELGESON, am a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Adjustable Metal Frames; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to frames especially adapted for window screens, doors, glass panels and the like, and more particularly to such frames that may be adjusted to different sized openings and thereafter having attached thereto a screen or glass panel.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings:

Fig. 1 is an inside perspective view of one form of the invention;

Fig. 2 is an outside elevation of the same;

Fig. 3 is a fragmentary perspective view in section taken on the line 3—3 of Fig. 2, on an enlarged scale;

Fig. 4 is a view corresponding to Fig. 1, but showing a slight modification;

Fig. 5 is a view principally in longitudinal section taken on the line 5—5 of Fig. 2, on an enlarged scale;

Fig. 6 is a detail view with some parts sectioned on the line 6—6 of Fig. 1; and

Fig. 7 is a fragmentary perspective view in section showing a further modification of the invention.

Referring first to the invention as shown in Figs. 1, 2, 3, 5 and 6, the numeral 8 indicates, as an entirety, a rectangular metal frame comprising four tubular right angle sections arranged in duplicate pairs 9 and 10. Duplicate frame sections are located at diagonally opposite corners of the frame 8 and the legs of the frame sections 9 are telescoped into the legs of the sections 10 with freedom for sliding movement, which permits the frame 8 to be adjusted both horizontally and vertically to fit openings of different sizes. The legs of the frame sections 9 and 10 are polygonal in cross section and closely fit, the one within the other, so as to firmly hold the frame sections. Formed in the outer faces of the legs of the frame sections 9 and 10 are channels 11 in endless arrangement and the channels of connected legs have dove-tail interlocking sliding engagement, as best shown in Fig. 3.

The telescopically connected legs of the frame sections 9 and 10 are adjustably connected by staples 12, the prongs of which are seated in holes in the bottoms of the channels 11 in the legs of the frame 10, with freedom for endwise movement into and out of any of a plurality of longitudinally spaced holes 13 in the bottoms of the channels 11 in the legs of the frame sections 9, as best shown in Fig. 5.

The invention, as shown, also includes a screen panel 14, which, after the sash is adjusted to an opening and the sections thereof connected by the staples 12, has its marginal portions pressed by any suitable tool, which securely attaches said panel to the frame, as best shown in Fig. 3. While the frictional engagement of the staples 12 with the holes in which they are mounted is sufficient to hold the same in operative positions, the same are further securely held in operative positions by the overlying screen panel 14. After the panel 14 is once attached to the frame 8, said frame cannot be again adjusted without removing the panel therefrom.

As one means for detachably securing the improved frame to stops 15, only one of which is shown, I provide a plurality of latch plates 16 having in their edges, near one of their ends, opposite lock notches 17, and having in one of their edges, near the other end thereof, a lock notch 18. The latch plates 16 are adapted to be inserted endwise into transverse lock slots 19 in the legs of the sash sections 9 and 10 and then turned to cause the lock notches 17 to interlock with said legs. In this position of the latch plates 16, they extend parallel to the stops 15 and headed studs 20, one of which is shown in Fig. 6, in the form of a wood screw, are inserted through the lock notches 18 and then screwed into the stops 15. When the latch plates 16 are thus secured to a stop, they cannot turn in the lock notches 19 and securely hold the frame in position.

Referring now to the construction shown in Fig. 4, the frame 21 is made up of four

right angle frame sections, each of which comprises rigidly connected legs 22 and 23. The sections of the frame 21 are identical, the one with the other, and the legs 22 are telescoped into the legs 23 for sliding adjustment.

The construction shown in Fig. 7 is the same as that shown in Fig. 3, with the exception that channels 24 are formed in the frame sections 9 and 10 to receive a glass panel 25. A pliable joint strip 26 is interposed between the channels 24 and panel 25 to form tight joints. A weather strip 27 is formed on the outer edges of the frame sections 9 and 10 and is adapted to be seated in an endless slot in the member in which the frame is mounted.

The above described invention, while extremely simple and of comparatively small cost to manufacture, is thought to be highly efficient for the purpose had in view.

What I claim is:

1. A tubular frame the body of which is closed and has pressed from one of its faces a channel that is within said body and dove-tail in cross section, said body and channel being continuous in cross section, and a screen panel, the marginal edge portion of which is pressed and folded into the channel to form a self-interlocking joint with the frame to secure the screen panel thereto.

2. A tubular frame made up of four right angle sections, the legs of which are telescopically and adjustably connected and form a closed body, said legs being rectangular in cross section, channel sections pressed into said body from one of the faces of each frame section, each channel section being dove-tail in cross section, the overlapping portions of the channel sections of connected legs being fitted the one with the other, each leg and its channel section being continuous in cross section, and a screen panel, the marginal edge portion of which is pressed and folded into the exposed portions of the channel sections to form a self-interlocking joint with the frame to secure the screen panel thereto.

In testimony whereof I affix my signature.

STINER T. HELGESON.