J. O. WAGNER.

INTERLOCKING ADJUSTABLE FRAME SHOE.

APPLICATION FILED MAR. 18, 1921.

1,435,270. Patented Nov. 14, 1922.

Fig. 1

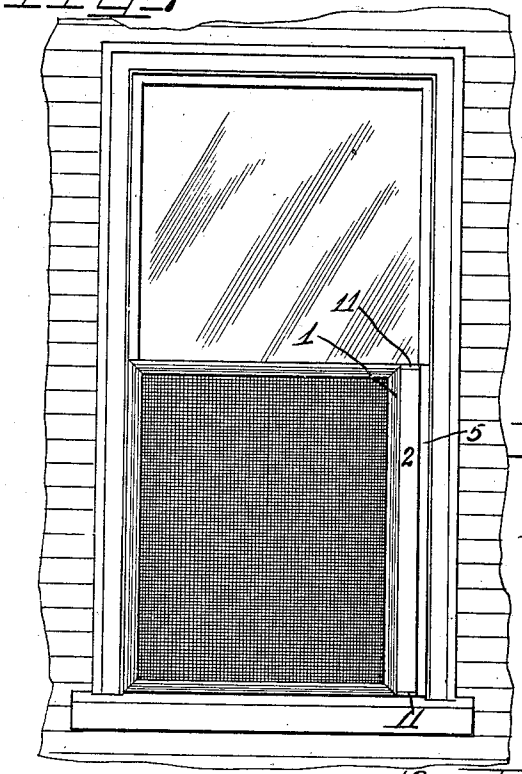


Fig. 7

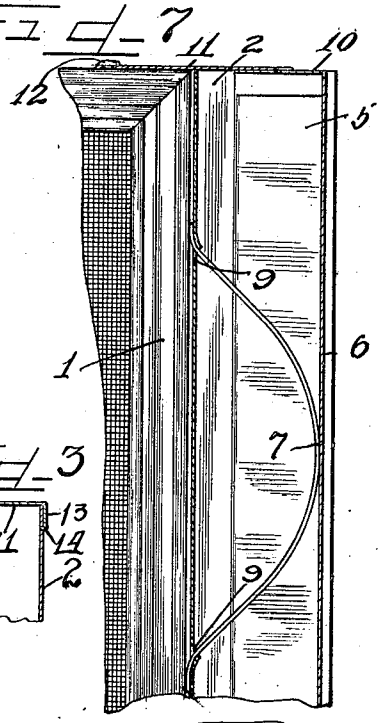


Fig. 3

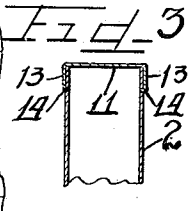


Fig. 6

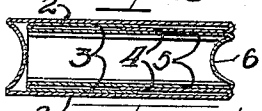


Fig. 4

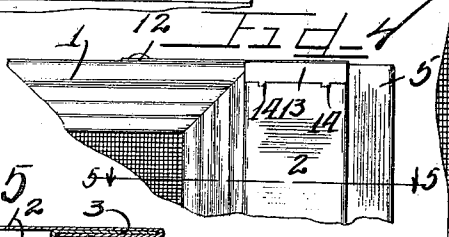


Fig. 5

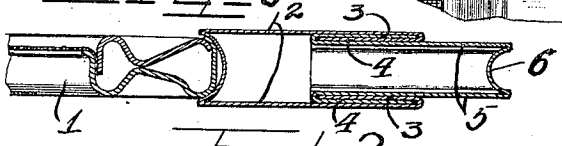
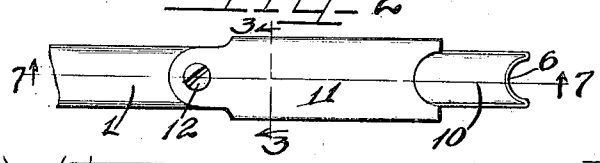
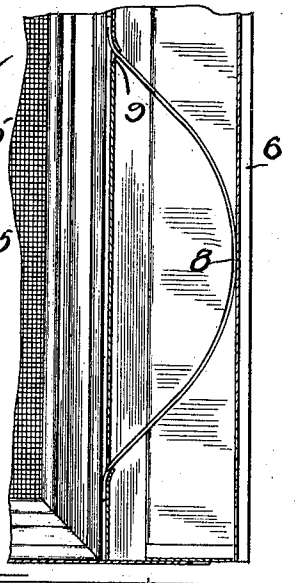


Fig. 2





Witnesses

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by

Atty.

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UNITED STATES PATENT OFFICE.

JOHN O. WAGNER, OF CHICAGO, ILLINOIS.

INTERLOCKING ADJUSTABLE FRAME SHOE.

Application filed March 18, 1921. Serial No. 453,495.

To all whom it may concern:

Be it known that I, JOHN O. WAGNER, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in an Interlocking Adjustable Frame Shoe; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an interlocking adjustable frame shoe, and particularly to a spring impelled frame shoe which is adapted to be used in connection with screen frames or window frames to automatically adjust the same for use in windows of varying widths.

Screens of the type under consideration are mounted in window frames to slide vertically on tongues provided for that purpose, and on account of the variation in the distance between these tongues, it is necessary that the slidable screen or window frame be provided with means whereby it may be readily adjusted to afford a good sliding fit. This adjustment is best provided by the use of telescopic metal sections which are normally held in extended position by resilient means engaged therebetween, and since these telescopic sections may be easily forced apart by pressure on the screen when they are in extended position, it is desirable that interlocking means therefor be provided. It is also desirable that means be provided for preventing dirt and foreign matter from entering the interior of the telescopic sections.

It is an object therefore of this invention to provide a telescopic automatically adjustable frame side wherein the telescopic sections are interlocked to prevent separation.

It is another object of the invention to provide an adjustable frame shoe having dust excluding means associated therewith.

It is also an object of the present invention to provide a frame shoe wherein spring impelled telescopic sections are provided with integral interlocking means.

It is an important object of this invention to provide an automatically adjustable frame shoe which is provided with means to afford rigidity thereto at the extreme positions of adjustment.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and the specification.

The invention (in a preferred form) is shown in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a view in elevation of a window frame equipped with a screen employing the improved frame shoe of this invention.

Figure 2 is a fragmentary top plan view of the frame shoe and the frame to which it is attached.

Figure 3 is a slightly enlarged fragmentary section on the line 3—3 of Figure 2.

Figure 4 is a fragmentary enlarged detail elevation of the frame shoe attached to a screen frame.

Figure 5 is a slightly enlarged fragmentary section on the line 5—5 of Figure 4.

Figure 6 is a sectional view similar to Figure 5, showing the frame shoe in extreme closed position.

Figure 7 is an enlarged fragmentary section on the line 7—7 of Figure 2, with parts in elevation.

As shown on the drawings:

The frame shoe of this invention is adapted to be secured to the vertical side 1 of a suitable screen frame or window frame, a screen frame being shown herein for purposes of illustration.

In the preferred embodiment of my invention shown herein, said screen frame 1 is constructed of stamped metal and secured to said frame by brazing or other suitable means is a stamped metal channel section 2 of the frame shoe. Said channel section 2 is provided with inwardly directed integral extensions 3 which are substantially parallel to the walls of the channel section, and engaged between said extensions 3 and the inside of the walls of a channel section 2 are outward extensions 4 which are integral with a channel section 5 which is laterally slidable in the channel section 2. Said channel section 5 is formed inwardly along its outer edge 6 to afford a groove which slidably engages a suitable tongue so that the screen or window may be vertically moved in the frame in which it is mounted.

It will be noted from the foregoing description that the telescopic engagement of said channel sections 2 and 5 with each other affords means whereby the width of the screen or window frame may be adjusted, and said channel sections are normally held in the extreme adjusted position to afford a frame of the greatest width by means of bowed leaf springs 7 and 8 which are slidably secured in slots 9 in the inner side of the channel section 2, as clearly shown in Figure 7. Said springs 7 and 8 contact the inside of the outer edge 6 of the channel section 5 and consequently tend to hold the sections 2 and 5 in extreme extended position.

In order to prevent dirt or other foreign matter entering the interior of the channel sections, the ends of the section 5 are provided with dust caps 10 which are secured thereon by brazing or other suitable means, while the ends of the channel section 2 are provided with dust caps 11 which are secured to the frame 1 by means of a screw 12, and which are provided with downwardly extending flanges 13 having tongues 14 thereon engaging the outside of the channel section 2. Said dust caps 11 are also cut away at their outer end to afford a groove which will register with the groove formed in the edge 6 of the channel 5 when the channel sections are in extreme depressed position.

The operation is as follows:

The operation of the device of this invention will be obvious from the foregoing description. The screen or window frame having the adjusting shoe thereon is inserted in position in the frame in which it is to be mounted, the grooves in the edges thereof being engaged over suitable tongues in said frame. It is, of course, apparent that if the frame in which the screen or window is to be mounted is narrower than contemplated, the shoe will automatically adjust this difficulty on account of the fact that the springs 7 and 8 will be compressed and the section 5 moved inwardly with respect to the section 2. It is therefore possible to provide for a variation of widths equal to the amount of relative movement of said sections 2 and 5. The interlocking portions 3 and 4 of said sections provide an important part of this invention and afford means whereby the separation of the sections is prevented when the same are in adjusted position. By the use of these interlocking sections it is possible to exert considerable pressure on the screen or the window equipped therewith without affecting a separation of the same.

From an examination of Figure 6 it will be noted that these extensions 3 and 4 are so constructed that they overlap, even when the shoe is adjusted for the narrowest position, and consequently the interlocking extensions provide means for maintaining the rigidity of the shoe in all positions of adjustment. In view of the fact that the springs 7 and 8 are mounted in the frame shoe by simply inserting the ends thereof through the slots 9 it is possible to easily assemble the frame shoe of this invention, and after the assembly thereof is completed the dust caps 11 are secured in position by means of the screws 12.

It is thus apparent that I have provided a conveniently adjustable frame shoe which may be economically manufactured and assembled and which is rigid and cannot be separated in any position of adjustment.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. A window screen frame, an expanding shoe secured thereto and comprising two U-shaped members with their bases away from each other, one of said members telescopingly sliding in the other and the other being secured to the frame, the edges of the last mentioned member being turned inward and toward the frame, the edges of the sliding member being turned outward and away from the frame, the last named edges lying between the first named edges and the main walls of the secured member, thus producing an overlapping of the edges, the width of the edges being sufficient to cause said overlapping to continue when the slidable member is nearest the frame and the abutment of the edges against the connection thereof with their respective main walls limiting the outward movement of the slidable member, in combination with resilient means for moving the slidable member away from said frame.

2. A telescoping shoe for a window screen frame, comprising two substantially U-shaped members with their bases away from each other, the edges of one of said members lying outside the edges of the other of said members and interlocked to limit their joint extensible movement, and a plurality of leaf springs for moving said members to their extreme position, said springs being held in slots in one member.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOHN O. WAGNER.

Witnesses:

CARLTON HILL,

JAMES M. O'BRIEN.