April 3, 1945. D. J. RUST 2,372,912

FRAMELESS WINDOW SCREEN

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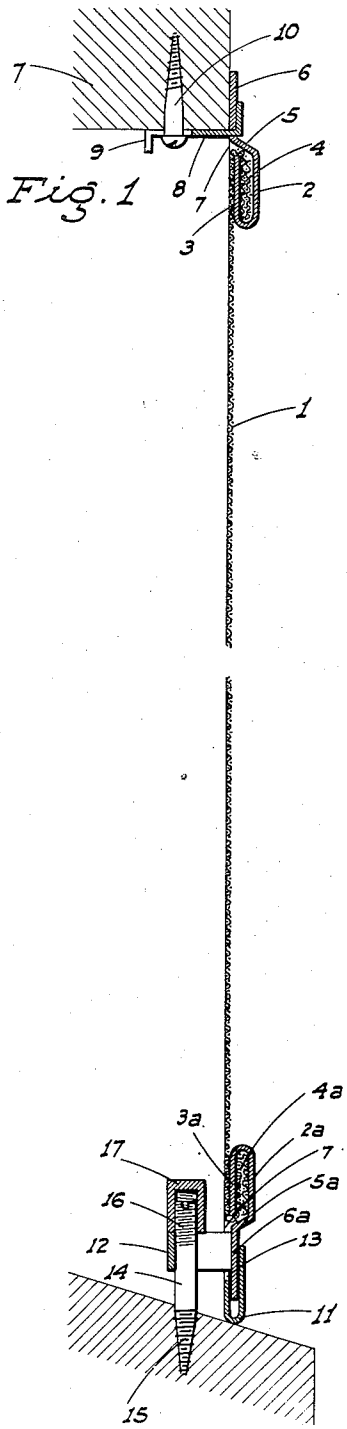


Fig. 1

Fig. 2

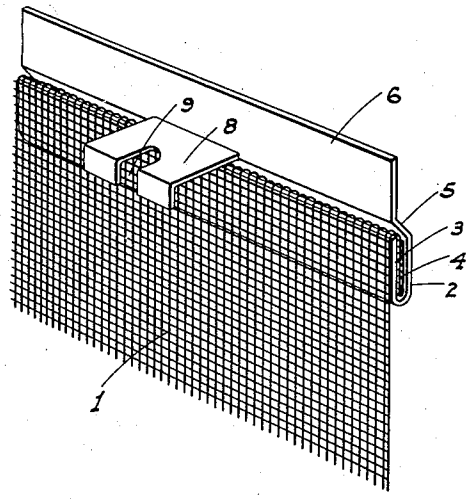
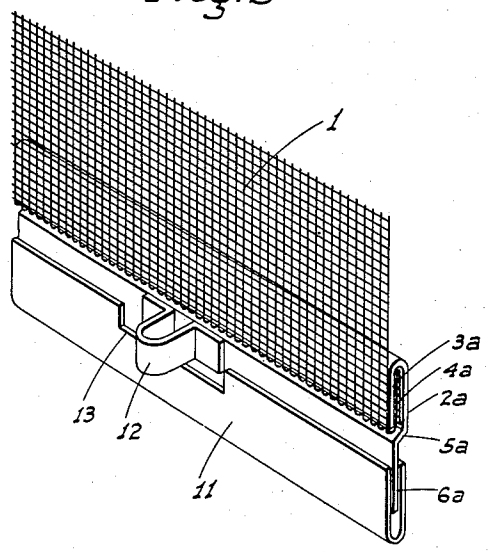


Fig. 3



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FRAMELESS WINDOW SCREEN

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3 Claims. (Cl. 160—328)

This invention relates to the building art, and particularly to screens for windows in buildings of all kinds.

The particular object of the invention is to produce such a screen which will be substantially frameless, and at the same time one which can be readily and quickly installed in place over the window opening and drawn sufficiently taut to completely seal such window opening against the entry of insects and the like into the building.

A further object is to provide such a type of screen as may be produced at a very low cost and readily packaged in a compact manner for sale through various merchandising outlets.

A still further object of the invention is to produce an article as described which may be readily assembled and put into place in a window by any skilled or unskilled person, and without in any way having to specially prepare the window opening.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Figure 1 is a vertical section of a window opening showing my improved type of frameless screen as appears when in position therein.

Figure 2 is a fragmentary view showing a portion of the upper end of the screen as it appears when assembled.

Figure 3 is a similar view of the lower portion of the screen as assembled.

Referring now more particularly to the characters of references on the drawing, the numeral 1 designates the screen cloth used in connection with my invention, which is usually of the size to fit the standard window opening in connection with which it is intended to be used. This screen preferably has a selvaged edge in order to allow it to be drawn taut without tending to distort or bulge the screen when it is assembled with its supports and placed in the window opening. Holding strips are provided for the upper and lower ends of the screen cloth 1. The upper strip comprises a flat metal piece 2 which is bent back upon itself, as at 3, to provide an intervening space 4. Projecting from the free edge of the portion 2 is an inclined portion 5 which crosses the free edge of the portion 3 in slightly spaced relation thereto, such space being substantially the thickness of the screen cloth 1, while the space 4 is of a width sufficient to hold at least two thicknesses of the wire cloth doubled over.

Projecting outwardly from the inclined portion 5 is a flange 6 adapted to face against the top of the blind stop 7 and thus seal the upper portion of the window opening against the entry of insects at that point.

Projecting inwarly from the flange 6 are brackets 8 provided with open slots 9 whereby the upper holding strip structure may be securely fastened to the upper side of the blind stop of the window by means of screws 10. The lower holding strip is similar in construction to that of the upper strip just described; the portions 2*a*, 3*a*, 4*a*, 5*a* and 6*a* being identical in construction with the portions 2, 3, 4, 5, and 6. However, the installation of the lower strip is different from that of the upper strip and provides a means whereby the screen may be drawn taut against the blind stop and at the same time completely seal the window opening aganist the entrance of insects and the like. To this latter end the flange 6*a*, instead of being faced against a blind stop structure, as is the flange 6, projects into a floating U-shaped strip 11 which rests against the bottom sill of the window opening. On this flange 6*a* are inwardly projecting slotted brackets 12 which project through slots 13 on the inner face of the strip 11. The double-thread screws 14 are provided at their lower ends with wood threads 15, whereby the screws 14 may be inserted into the window sill, and at their upper ends with machine threads 16 for the reception of clamping nuts 17 which are mounted on the threads 16 and engage the slotted brackets 12 when the screen is being installed in position.

When manufactured the screen, the holding strips, and the screws are all separated and may be conveniently put into a small size package for merchandising.

When the screen is to be installed the two ends of the screen cloth 1 are folded back on themselves and the folded portion is then slipped endwise into the spaces 4 and 4*a* of the upper and lower holding strips, respectively, and the screen cloth adjacent these folded portions then projects through the restricted openings between the portions 3 and 5 and 3*a* and 5*a*, respectively, and over the inner faces of the portions 3 and 3*a*. Thus, tension may be exerted between the upper and lower holding strips, and these restricted openings, being less than the folded-over thickness of the ends of the screen, will prevent the latter from pulling out of the holding strips.

The upper holding strip is then positioned through the medium of the screws 10. The lower holding strip has its flange 6*a* positioned in the

floating U-shaped strip 11, and the screws 14 are then put in position through the brackets 12 to pull the screen cloth 1 taut and in tight position against the edge of the blind stop of the window opening. Since the U-shaped strip 11 is free floating and rests against the lower window casing, and since the flange 6a is movable therein, this strip 11 will seal any space between the bottom edge of the flange 6a and the window sill irrespective of what movement of the parts is necessary to properly place the screen cloth 1 under tension.

It is also to be noted that an important feature of my invention is the fact that due to the specific construction of the holding strips it is not necessary to clamp the screen cloth between any metal bars or the like to hold it in place in the strips; the relative sizes of the described spaces being such that the folded-over ends of the screen cloth are alone sufficient to prevent the same from being pulled from such holding strips. This very much simplifies the structure of the screen and materially reduces the cost of manufacture.

From the foregoing description it will be readily seen that I have produced a very simple screen assembly which may be entirely frameless except for the holding strips to be assembled therewith, and one which can be cheaply manufactured, readily packed and installed in the window opening without the necessity of having special tools or in any way having to specially prepare the window opening.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. A screen for windows comprising a sheet of screen material, holding strips secured on the ends of such sheet, means for securing the holding strips to a window frame including means for securing one strip to one end of the window, a flange on said one strip, and a substantially U-shaped strip mounted over said flange and being flotable relative thereto and engaging the adjacent portion of the window frame to seal any space between the edge of the flange and the window opening while allowing freedom of movement of the holding strip to place the screen material under tension.

2. A screen for windows comprising a sheet of screen material, a holding strip at each end of such sheet, means to secure one strip to one end of the window frame, means to fasten the other strip to the opposite end of the window frame but in spaced relation thereto whereby the screen material may be put under tension by pulling against the strip with the fastening means, a flange on such latter strip, and a substantially U-shaped strip mounted over the flange in floating relation thereto and resting on the adjacent portion of the window frame to close the space between such strip and the window frame.

3. A frameless window screen comprising the combination with a sheet of screen material of a holding strip for an end of the sheet, such strip comprising a plate folded back over itself to form an intermediate space between the folded portions, another portion of the strip projecting angularly from the edge of one of the folded portions and spaced from the edge of the other folded portion, such latter space being not substantially greater than the thickness of the screen material and the space between the folded portions receiving at least two thicknesses of a folded end on the sheet, an end of the sheet being folded over and the folds thereof disposed in said last named space and the sheet thence projecting through the space between the angularly extending portion and the edge of the adjacent folded over portion of the holding strip, means to fasten the holding strip to the window frame, and means to place the screen cloth under tension over the window opening.

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