

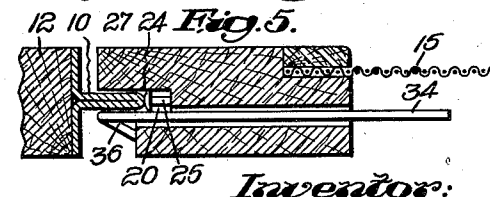
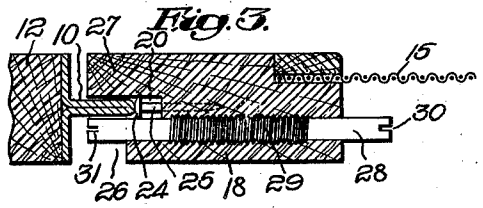
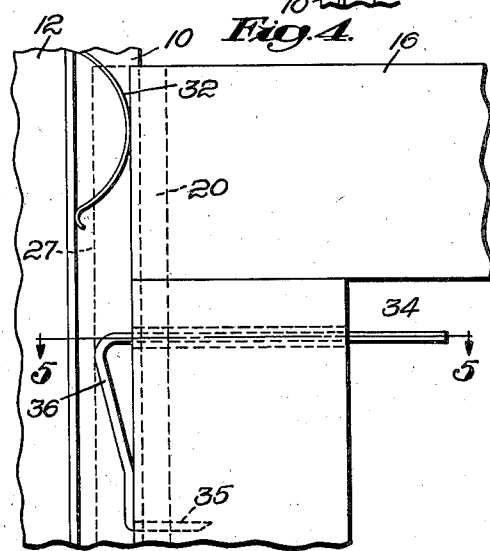
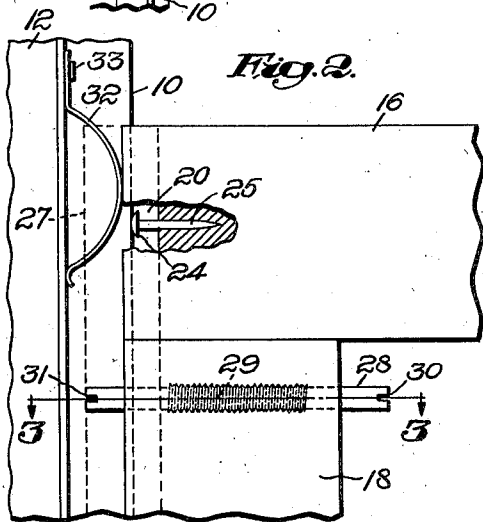
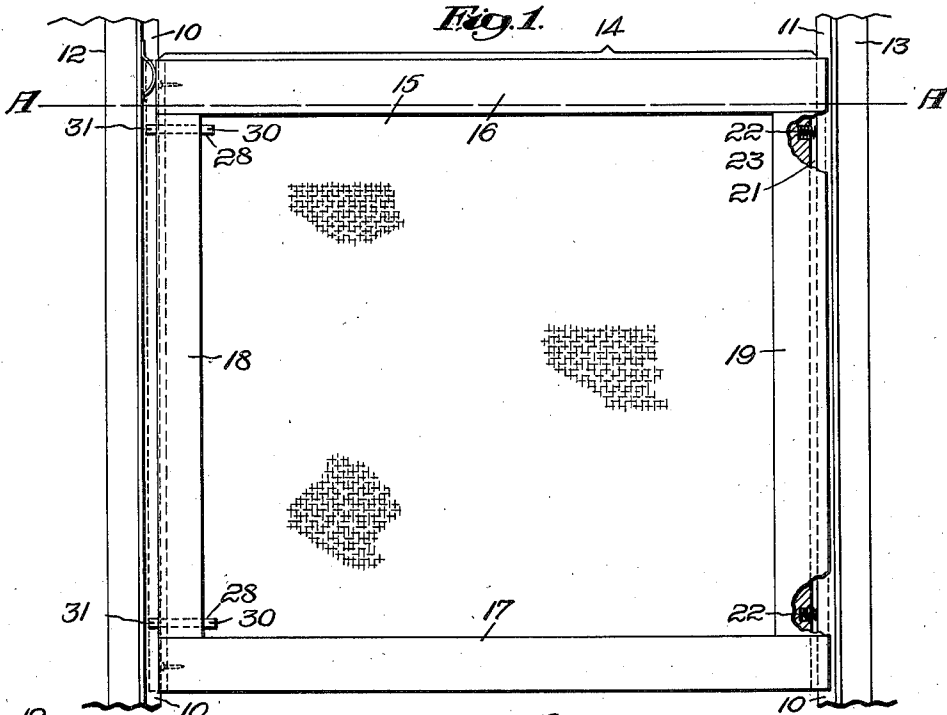
Sept. 3, 1935.

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2,013,155

WINDOW SCREEN STRUCTURE

Filed May 3, 1934



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UNITED STATES PATENT OFFICE

2,013,155

WINDOW SCREEN STRUCTURE

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Application May 3, 1934, Serial No. 723,723

18 Claims. (Cl. 156-14)

This invention relates to window screen structures and is concerned with a novel and improved construction enabling the screen to be removed from the guide rails easily and conveniently and without injury either to the screen or to the guide rails. In the accomplishment of this result, the screen is provided with a rabbet along one of its vertical edges on the face which is toward the window sash. One feature of the invention is a means to prevent the entrance of insects to the building by way of this rabbet.

The invention will readily be understood by reference to the accompanying drawing of two specific embodiments thereof, while its scope will be pointed out more particularly in the appended claims.

In the drawing:

Fig. 1 is an elevation of a window screen structure embodying the invention as viewed from the inner side;

Fig. 2 is an elevation on a larger scale of the upper left hand portion of the structure shown in Fig. 1, a part of the screen frame being broken away and shown in vertical section;

Fig. 3 is a horizontal, sectional view on line 3-3 of Fig. 2;

Fig. 4 is an elevation similar to Fig. 2 showing a modification; and

Fig. 5 is a sectional view on line 5-5 of Fig. 4.

Referring to the drawing and to the embodiment of the invention which is illustrated therein by way of example, there is shown a window screen structure comprising two vertical guide rails 10 and 11, herein made of sheet metal and secured to vertical strips 12 and 13, which form a part of a window casing. A screen 14 comprises a netting 15 mounted in a frame comprising upper and lower horizontal members 16 and 17 and vertical members 18 and 19, the vertical members being guided by the rails. The members 18 and 19 are provided respectively with grooves 20 and 21 which receive the guide rails 10 and 11. At one side, herein the right hand side, as shown in Fig. 1, the screen carries appropriate springs, herein helically coiled springs 22, received in recesses 23 in the member 19 resting against the guide rail 11 and urging the screen toward the guide rail 10. As herein shown, there are shoes 24, conveniently rounded heads of nails 25 driven into the screen frame and resting against the edge of the guide rail 10. As the groove 20 is considerably deeper than ordinarily is necessary, some adjustment of the screen to the space between the guide rails can be accomplished by the depth to which the nails

are driven, as will be evident from an examination of either Fig. 2 or Fig. 3.

It will be observed, by reference to Fig. 3, that the member 18 is provided on the inner side of the screen frame with a rabbet 26, while on the outer side the member 18 has a projection in the form of a tongue 27 having a surface which overlies the outer face of the guide rail 10. The purpose of the rabbet is to allow the screen to be removed easily and conveniently. As herein shown, the dimensions of the rabbet are such that the guide rail 10 projects slightly into the groove 20, though this is not essential, and the rabbet might equally well be substantially wider. In the construction shown, the screen must be moved slightly toward the right, as viewed in Fig. 1, against the resistance prevented by the springs 22 to enable the groove 20 to be disengaged from the guide rail 10.

To prevent accidental disengagement of the screen from the guide rail 10, I provide one or more, herein two, retractible bodies, such as rods 28, whose outer ends overlie the guide rail 10, as best shown in Fig. 3. In the form shown in Figs. 1, 2 and 3, these rods are screw threaded at 29 (see Fig. 3), and they are screwed into the member 18, thereby to enable them to be retracted by rotating them in the proper direction, as by means of a screw driver, the inner ends of the rods to this end being provided with slots 30. As herein shown, the outer ends are provided with like slots 31 so that the rods are reversible end for end in case it should be necessary to do so.

Thus it will be seen that by retracting the rods 28 until their outer ends are flush with the right hand edge of the rabbet 26, the screen may be removed from the guide rails quickly and conveniently by simply urging the screen toward the right a sufficient distance to enable the guide rail 10 to be freed from the groove 20. This is a valuable feature, and is a considerable improvement over screens as heretofore made, because the screen can be removed without injury to the guide rails or to the screen, and this is particularly valuable because heretofore, when the wooden parts have become swollen by moisture, it has been difficult, if not altogether impossible, to remove the screen without injury to the parts.

The presence of the rabbet 26 would make it possible for insects to enter the building by way of the rabbet when the sash is raised, were it not for the provision of the feature now to be described, reference being had to Fig. 2. To this

end there is provided a retractable body, herein a spring 32, within the rabbet 26 and suitably secured, as by a tack 33, to the strip 12. This spring closes the upper end of the rabbet and prevents the entrance of insects when the sash is raised. This will readily be understood by inspection of Fig. 1 if it be considered that the broken line A—A represents the lower edge of the sash when raised. As shown, the body of the spring is bow shaped and it presents sloping portions above and below its point of engagement with the screen, so that when the latter is raised and lowered the outer end of the rod 28 will ride along the sloping surface of the spring and cause retraction of the same.

The modification shown in Figs. 4 and 5 is precisely the same as that already described, except that instead of employing a screw threaded rod there is a rod 34 which is spring mounted, this being conveniently accomplished in the present example by making the rod as a part of a piece of spring wire bent to provide a spur 35 driven into the screen frame and a resilient portion 36 which normally overlies the inner face of the guide rail 10. By grasping the inner end of the rod and pulling the same inwardly a sufficient extent to enable the overlying portion to be retracted inwardly, the screen frame may be detached from the guide rail 10 in the same manner as that already described in connection with the first form of the invention.

Having thus described two embodiments of the invention, but without limiting myself thereto, what I claim and desire by Letters Patent to secure is:

1. A window screen having a frame comprising opposite, vertical members guidable on guide rails, one of said members having a surface to overlie one face of an associated guide rail, and a retractable body carried by said screen and overlying the opposite face of the associated guide rail.
2. A window screen having a frame comprising two opposite members for engagement with opposite guide rails of a window, one member having a surface to overlie one face of the guide rail therefor, and a retractable body carried by said screen to overlie the opposite face of such guide rail.
3. A window screen having opposite edges, one provided with a groove to receive a guide rail, and the other provided with a projection to overlie one face of an opposite guide rail, and a retractable body carried by said screen to overlie the opposite face of the last-mentioned guide rail.
4. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a rabbet in which the other guide rail is receivable and a tongue to overlie one face of the latter guide rail, a retractable body carried by said screen to overlie the opposite face of the last-mentioned guide rail, and a retractable body to be supported by the last-mentioned guide rail within said rabbet adjacent the top of said screen to prevent the entrance of insects from the outside of the screen into said rabbet.
5. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a rabbet in which the other guide rail is receivable and a tongue to overlie one face of the latter guide rail, a retractable body carried by said screen to overlie the opposite face of the last-mentioned guide rail, and means to limit the

entrance of insects into said rabbet from the outside of the screen.

6. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of the second guide rail, and a retractable member to overlie the opposite face of said second guide rail and which is retractable inwardly to permit said screen to be displaced from the second guide rail by swinging of its grooved edge on the first-mentioned guide rail.

7. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of a second guide rail, and a retractable member having a portion to overlie the opposite face of the second guide rail, and a portion which is mounted on said screen for movement inwardly with relation to the adjacent edge of said screen.

8. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of the second guide rail, and a retractable member carried by said screen and having a portion to overlie the opposite face of the second guide rail, said member comprising a rod which is movable in the direction of its length and transversely of the second guide rail.

9. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of the second guide rail, and a retractable member carried by said screen and having a portion to overlie the opposite face of the second guide rail, said member comprising a rod to extend transversely of the second guide rail, said rod having screw threaded engagement with said screen.

10. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of the second guide rail, and a retractable member carried by said screen and having its outer end arranged to overlie the opposite face of said guide rail, and its inner end accessible for manipulation, an intermediate portion of said member extending through a portion of said screen.

11. A window screen provided at one edge with a groove in which one of a pair of guide rails is receivable, and provided at its opposite edge with a projection to overlie one face of the second guide rail, and a retractable member carried by said screen and having its outer end arranged to overlie the opposite face of said guide rail, and its inner end accessible for manipulation, an intermediate portion of said member extending through and having screw threaded engagement with a portion of said screen.

12. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a retractable body carried by said screen to overlie the opposite face of such guide rail, said body comprising a rod which extends through a portion of said screen.

13. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a retractable body

carried by said screen to overlie the opposite face of such guide rail, said body comprising a rod which extends through and has screw threaded engagement with a portion of said screen.

5 14. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a retractible body
10 carried by said screen to overlie the opposite face of such guide rail, said body comprising a rod which extends through a portion of said screen and is movable lengthwise of itself and transversely of such guide rail.

15 15. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a retractible body
20 carried by said screen to overlie the opposite face of such guide rail, said body comprising a rod which extends through and is resiliently mounted on said screen for movement transversely of such guide rail.

25 16. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a body carried by said
30 screen and having a resilient portion to overlie

the opposite face of such guide rail, said body having a portion fixedly mounted on said screen, and a portion which may be manipulated to flex and retract said resilient portion inwardly with relation to the adjacent edge of said screen. 5

17. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of the guide rail therefor, and a body carried by
10 said screen and having a resilient portion to overlie the opposite face of such guide rail, said body having a spur portion driven into said screen, and a portion which may be manipulated to flex and retract said resilient portion inwardly with rela- 15 tion to the adjacent edge of said screen.

18. In a window screen, the combination of a frame comprising two members for engagement with opposite guide rails of a window, one member carrying a projection to overlie one face of
20 the guide rail therefor, and a body carried by said screen and having a resilient portion to overlie the opposite face of such guide rail, said body having a spur portion driven into said screen, and a portion which extends through a
25 portion of said screen and may be manipulated to flex and retract said resilient portion inwardly with relation to the adjacent edge of said screen.

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