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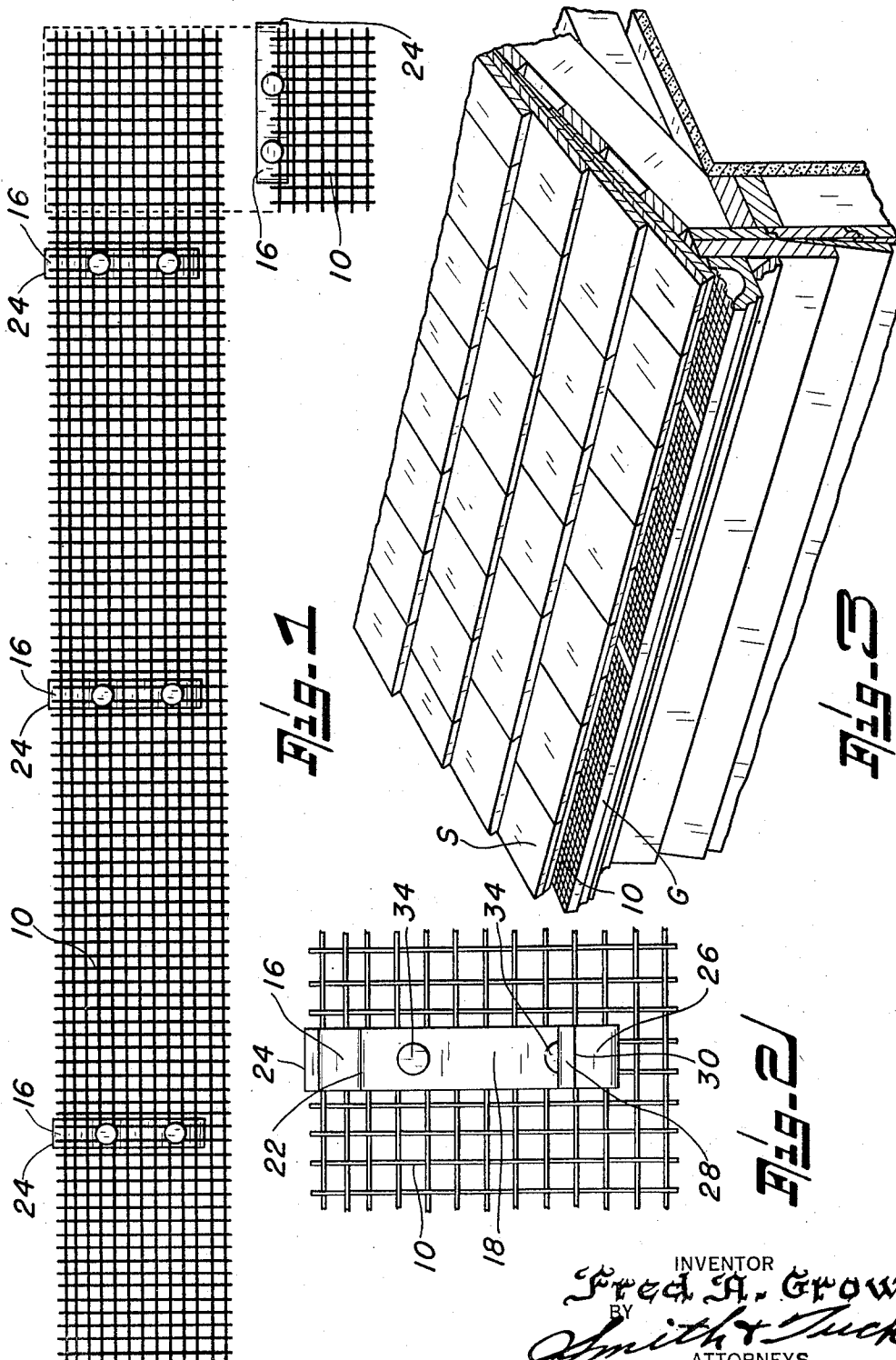
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PROTECTIVE SCREEN FOR ROOF GUTTERS

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2 Sheets-Sheet 1



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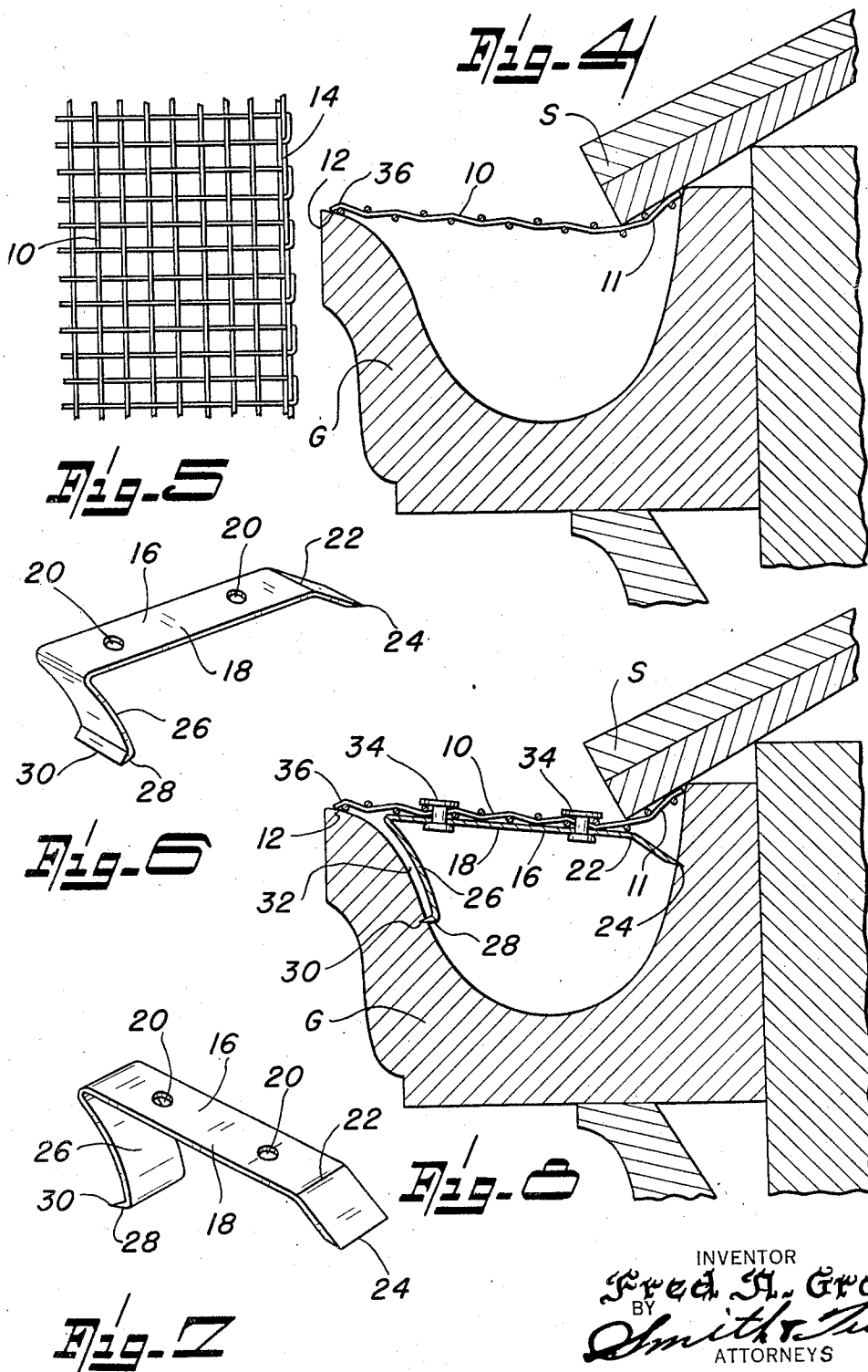
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UNITED STATES PATENT OFFICE

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PROTECTIVE SCREEN FOR ROOF GUTTERS

Fred A. Grow, Winslow, Wash.

Application February 1, 1940, Serial No. 316,848

4 Claims. (Cl. 108—30)

My present invention relates to a protective screen for roof gutters.

My invention consists, essentially, in providing a strip of, preferably, galvanized or copper screening sufficient to fully protect a house gutter from the entrance of leaves, twigs, and the like; the screen to be one which can be easily inserted in place and, likewise, conveniently removed, and to further provide securing means which will hold the screen in a fixed position.

Periodically, house owners are required to clean out the gutters at the eaves of their roofs so that the accumulated leaves, twigs, and the like will not be carried into the downspouting to the drain-disposal system where clogging of the same is so often experienced.

The cleaning of gutters is not only burdensome to the average householder, but is quite dangerous, particularly for persons who do not have adequate and proper equipment. It is largely for this reason that screening of the ordinary type is not employed to protect the gutters, because the placement of the screens and the removal of the same normally present a very difficult problem. It is to meet this condition that I have provided my protective screen which is so arranged that the inexperienced person can easily, quickly, and safely install or remove the same. And when once installed, screens are held in place without any danger of their displacement.

The principle object of my invention, therefore, is to provide a protective screen for roof gutters that can be easily installed and when in position will be held in that position by the spring tension of my securing means.

A further object of my invention is to provide means for holding a screen in place which is so constructed that each end of the holding means can be slightly imbedded in the eave trough.

A further object of my invention is to provide one end of my screen-holding clip with an off-set portion so that, with the aid of a putty knife or some like simple tool, my screen can be easily put into place or removed.

Other and more specific objects of my invention will be apparent from the following description taken in connection with the accompanying drawings wherein

Figure 1 is a top plan view of a protective screen made after the teachings of my present invention.

Figure 2 is a bottom plan view showing a portion of my protective screen with one of the resilient clips used to hold the same in place.

Figure 3 is a perspective view showing, in section, a portion of a roof and gutter assembly with my protective screen in place over the gutter.

Figure 4 is a cross-sectional view through a gutter and a portion of the roof showing the position of my protective screen.

Figure 5 is a plan view showing a preferred form of edge for the screen used with my device.

Figures 6 and 7 are perspective views showing, from different positions, the same clip, of the type used in securing my protective screen in place.

Figure 8 is a sectional view similar to Figure 4 with the section taken through one of my resilient clips, showing its relationship and the manner of securing the same to the protective screen.

Referring to the drawings throughout which like reference characters indicate like parts, 19 designates the wire body of my protective screen. This, for convenience in handling, I prefer to provide in strips, usually from two to four feet long, although it will be apparent that any reasonable length might be employed. The width should be sufficient to entirely protect the gutter from the entrance of large foreign materials such as leaves, twigs, and the like, without offering any real hindrance to the easy flow of drain water into the gutters.

The manner of installing my protective screens will probably best be understood from a study of Figures 3, 4, and 8 in which it will be noted that the screens are bent up at 11 so as to extend up under the over-hanging ledge of the shingles S, and extend outwardly to the outer lip at 12 of the gutter G. In this manner it is believed that it will be clear that any leaves, or branches, or twigs that may be blown into the gutter or washed down the roof will be collected on screen 10. I prefer that each margin of my screen strips will be provided with the selvage as 14 shown in Figure 5 so that there will be no tendency for the screens, particularly when lighter weight wires are used, to fray and, further, to give reasonable stiffness to the screens so that they can be easily installed and removed.

In order to secure my screens in place so that they will not be accidentally moved, I provide a plurality of clips 16 as are illustrated in Figures 6, 7, and 8, particularly. These clips are provided with a flat body portion as 18 which is pierced by a plurality of rivet openings 20 and has one end bent downwardly along line 22. This end is provided with the knife-like edge

at 24. This should, preferably, be sharpened after the showing of the various views so that even though it is of considerable lateral extent it can bite into the wood of the gutter G. The opposite end of clip 16 I prefer to form with a downwardly extending curved portion 26 which follows, substantially, the curve of the gutter with which it is to be used, as shown in Figure 8. The lower end of portion 26 should be provided with an outwardly extending ledge 28 terminating with the knife-like edge 30. The extent of ledge 28 should be sufficient so that a flat, flexible tool, as for instance a putty knife, can be engaged on lip 28 and used as a seating tool to force the clip down sufficiently so that the screen will firmly engage gutter G at point 12. This also provides a convenient means for removing the screens, in that a flat instrument can be inserted in the space indicated at 32 and point 30 can be pried out of the wood and, if the tool is stiff enough, member 26 can be deflected inwardly so that the point will clear and the clips can be raised. Another method of handling is to rotate the flat tool slightly and get it disposed between the gutter and point 30 so that the metal will provide a firm, smooth base for the point 30 to slide on upwardly and out of the gutter.

Any convenient means of attaching clip 16 to the screen body 10 may be employed. It has been found that, normally, large headed rivets as 34 are probably the most convenient; however, certain types of screening may have the clips brazed or soldered to the screen. In some instances the galvanizing action, particularly when hot-dip galvanizing is used, is often sufficient to secure the screens to the clips. Normally, however, it is desirable that the point of attachment be removed from the outer curved portion 26 substantially after the proportioning shown in Figure 8. Thus, when the screen is put in place or removed it will be possible to merely spring the outer edge, as 36, of screen body 10 upwardly sufficient to get the seating or removing tool into space 32 without forming a permanent bend in the screen body which would, in turn, make it difficult to obtain a secure engagement at point 12.

When my protective screens are employed it is normally best to have them slightly overlapping, instead of just abutting. In this way, it is not necessary to have the screens cut to a predetermined, exact length as the overlapping can take up sufficient so that stock sizes of screen can be accommodated to any reasonable dimension in the gutter. With this end in view it has been found most desirable to space the clips back somewhat from either end of the screen, substantially like the showing of Figure 1, so that this overlapping can be accomplished. When gut-

ters are returned inwardly or a junction is made, the two screens covering the gutters that normally meet at right angles can again be overlapped without any interference; such an arrangement is indicated in the dashed lines in Figure 1.

The foregoing description and the accompanying drawings are believed to clearly disclose a preferred embodiment of my invention, but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims:

I claim:

1. The combination with a longitudinally extending perforated screen for a wooden roof-gutter, of a transversely arranged fastening plate of resilient material secured to the screen, and said plate at its opposite ends having fastening means embedded in the opposite inner faces of the upright walls of the gutter.

2. The combination with longitudinally extending perforated screen for a wooden roof-gutter, of a transversely extending fastening plate of resilient metal secured to the screen, said plate having means at its inner end embedded in the face of one of the upright walls of the gutter, said plate having at its outer end a bend conforming to the shape of the inner face of the other upright wall of the gutter, and said bend having a sharpened edge penetrating the latter face of the gutter.

3. The combination with a longitudinally extending perforated screen for a wooden roof-gutter, of a transversely extending fastening plate of resilient metal secured to the screen, said plate having an inner angular flange and a sharpened edge on said flange penetrating one inner face of the gutter, said plate also having an outer flange conforming to the interior shape of the gutter, and said outer flange terminating in a sharpened angular end penetrating the other inner face of the gutter.

4. The combination with a longitudinally extending perforated screen for a wooden roof-gutter, said screen having opposed selvaged edges one of which is fitted beneath an overhanging portion of a building roof, of a plurality of spaced transversely arranged fastening plates riveted at the underside of the screen, said plates being fashioned of resilient metal, each of said plates having an inner downwardly bent flange having a knife-edge penetrating the inner face of the inner upright wall of the gutter, a downwardly bent flange at the outer end of each plate and conforming to the contour of the inner face of the outer upright wall of the gutter, and said latter flange having an outwardly bent knife-edge penetrating said latter inner face.

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