Feb. 6, 1945. A. C. OLSEN 2,368,867

SHINGLE FASTENING DEVICE

Filed Sept. 18, 1943

Fig. 1.

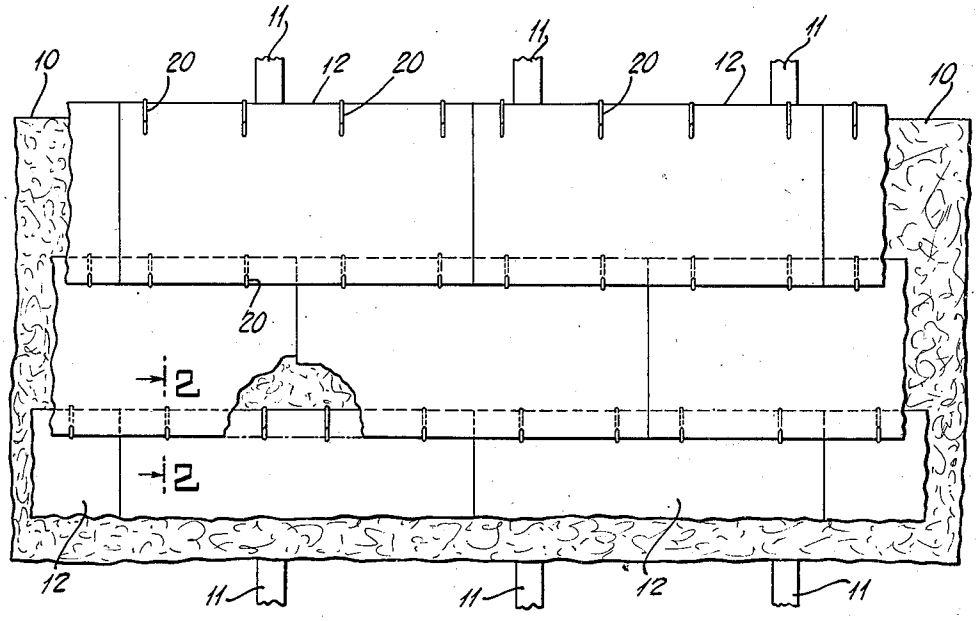


Fig. 2.

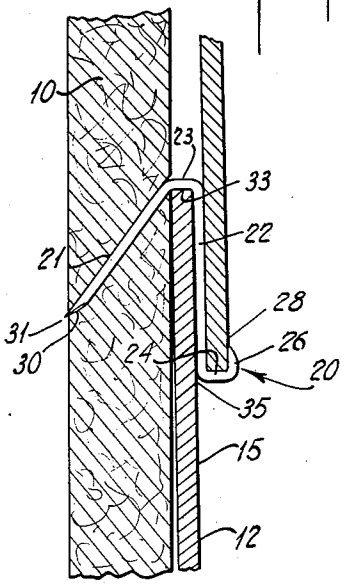
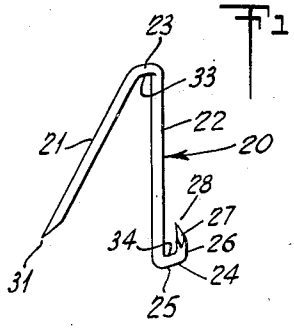


Fig. 3.



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SHINGLE FASTENING DEVICE

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4 Claims. (Cl. 108—33)

This invention relates to fastening devices for use in roofing and siding construction and is more particularly concerned with the provision of fastening devices for securing shingles to sheathing or other supporting surfaces of the type characterized by a low degree of nail-holding power.

An object of the present invention is to provide a form of fastening device for the purpose set forth, so designed as to securely hold shingles to sheathing of the character described without requiring the use of auxiliary locking members to hold the same against withdrawal from the sheathing.

Another object of the invention is to provide a fastening device of the character indicated which is of simple construction, which can be readily applied and which will be highly effective in securing shingles to sheathing material of the character described.

Still another object of the invention is to provide a fastening device of the character indicated and which is so designed as not to require perforations or nail holes through the shingle in order to accommodate the fastening device.

Other objects and advantages of the invention will be more clearly apparent from the detailed description which is to follow and from the accompanying drawing in which:

Fig. 1 is a fragmentary view, in elevation, of a wall comprised of shingles secured to fiber insulation sheathing board by means of a fastening device embodying the invention;

Fig. 2 is a cross-section taken along line 2—2 of Fig. 1, and

Fig. 3 is a perspective view of the fastening device.

Referring now more particularly to Fig. 1, the reference numeral 10 designates a sheathing material such as fiber insulation board, gypsum board, or other material which does not have sufficient nail-holding power to firmly hold a nail in fixed position. The sheathing 10 may be applied to wood studs 11, spaced in accordance with customary practice, on 16" centers, the sheathing being secured to the studs as by nails or the like. Shingles 12 are laid in overlapping courses over the sheathing boards 10 and are secured directly thereto by fasteners 20 embodying my invention, the fasteners being applied at any desired points along the upper edge of the shingle in each course, to hold the same, as well as the butts of the shingles in the next overlapping course, firmly to the sheathing. The shingles are of the rigid type, such as asbestos-cement shingles.

Referring now more particularly to Figs. 2 and 3, the fastening device 20 of my invention comprises a single piece of wire, preferably hard drawn wire of 12 to 16 gauge, reversely bent to form legs 21 and 22, the reverse bend 23 being preferably formed so as to extend substantially at a right angle with respect to the leg 22 and at an obtuse angle with respect to the leg 21 so that the legs extend at an acute angle of approximately 30 to 60° with respect to each other. At the end of the leg 22 opposite the reverse bend 23 there is formed a substantially U-shaped hook portion 24, lying on the side of the leg 22 opposite to that on which leg 21 lies. The arm 25 of the hook extends preferably at approximately a right angle with respect to the leg 22, and the leg 26 of the hook portion extends upwardly for a short distance substantially parallel to the leg 22.

The end of the leg 26 is beveled along a plane 27 extending upwardly and outwardly from a point along the inner side of the leg to the end thereof so as to form a sharp point 28, the beveled portion of the leg being bent slightly inwardly toward the leg 22 so that the beveled face 27 lies in a plane substantially parallel to the leg 22. The outer end of the leg 21 is beveled along a plane 30 extending downwardly and outwardly from the inner side of the leg 21 to the end thereof so as to form a sharp point 31.

The angular relation between the legs 21 and 22 is an important feature of the invention in that it is by virtue of this angular relationship that the fastener of my invention can function to securely hold the shingles 12 to the sheathing 10, notwithstanding the relatively poor nail-holding power of the sheathing. Thus, if the leg 21 were made to extend substantially at a right angle to the leg 22, so as to penetrate the sheathing at right angles to the surface, it would offer relatively little resistance against withdrawal when force is exerted thereon in a direction away from the sheathing and at right angles thereto. But because the leg 21 of the fastening comprising my invention penetrates the sheathing at an angle substantially less than 90° with respect to the face of the sheathing board, any such force does not result in outward displacement of the fastener. To that end, the leg 21 is made to extend at an acute angle with respect to the leg 22, varying from a minimum of about 30 degrees to a maximum of about 60 degrees.

In a preferred embodiment, the leg 21 may ex-

tend at an angle of 40 degrees with respect to the leg 22 and may be 1½ inches long for securing shingles to sheathing of ½ inch or more in thickness. Thus, where the sheathing is ¾ of an inch thick, the point 31 will barely penetrate the face of the sheathing opposite that to which the shingles are applied. However, when used for securing shingles to sheathing of say ½ inch thickness, the projection of the point 31 beyond the rear face of the sheathing does not affect the efficiency of the fastener. It will be understood, of course, that the length of the leg 21 and its angular relation to leg 22 may be such that it will not penetrate entirely through the sheathing.

As stated above, the connecting portion 23 preferably extends at a right angle with respect to the leg 22. However, the wire may be more sharply bent so as to form an acute angle apex at the connection between the legs 21 and 22. It is desirable, however, that this bend be formed so that in the use of the fastener the inner side 33 of the bent portion 23 can readily be brought into contact with the upper edge of the shingles of each course.

The length of the leg 22 is such that the distance between the inner side 33 of the bend 23 and the upper side 34 of the arm 25 will be equal to the distance by which it is desired that the shingles of one course shall overlap the shingles of a preceding course. In this manner the fastener may be made to serve automatically as a guide for insuring the desired amount of overlap between successive courses of shingles.

The length of the arm 24 between legs 22 and 26 corresponds substantially to the thickness of the lower edges of the shingles to be fastened to the sheathing by the fastener.

In utilizing the fastener, to secure, for example, asbestos-cement shingles to insulation sheathing board, the leg 21 is driven or forced through the sheathing board beginning at a point approximately level with the upper edge of the shingles in each course, driving the fastener from a position in which the leg 22 lies substantially parallel to the surface of the sheathing. As the fastener is driven into the sheathing board, the bevel 30 on the inner side of the leg 21 serves to force the leg in a slightly upward path through the sheathing, so that when it reaches the position shown in Fig. 2 of the drawing, the inner end of the arm 24 will exert a binding action upon the shingle at the point indicated at 35. The shingles of the next succeeding course may then be applied, the lower or butt edges of these shingles being inserted within the hook portions 24 of the fasteners applied along the upper edge of the shingles in the preceding course. The fasteners are then applied along the upper edges of the succeeding course of shingles, thereby securely holding the shingles to the sheathing board.

The fasteners may be positioned at any desired point along the upper edge of the shingles in each course to hold these portions of the shingles to the sheathing board and likewise to engage the lower or butt edges of the shingles in the next succeeding course. Desirably one of the fasteners is applied a short distance on each side of the vertical median line of each shingle, so as to be positioned adjacent each side of the vertical joints between abutting shingles of the succeeding course. If desired, an additional fastener or fasteners may be applied to the shingles of each course in position to cooperate with the butts of the overlapping shingles at any desired point or points along the butt edge. Thus, in Fig. 1 there are shown four clips applied along the upper edge of each shingle. It will be understood that, depending upon the type of shingle and size used, the number of fasteners for each shingle may be more or less than four.

I claim:

1. A fastening device for securing shingles to sheathing having relatively low nail-holding power, comprising a single piece of wire bent upon itself to form a pair of legs extending at an angle of approximately 30 to 60 degrees with respect to each other, one of said legs having a substantially U-shaped hook at the free end thereof, the other of said legs having a prong bevelled in a direction to force said leg to take a slightly upward path when driven into such sheathing.

2. A fastening device for securing shingles to sheathing having relatively low nail-holding properties, comprising a single piece of wire bent to form a pair of legs extending at an acute angle with respect to one another, one of said legs having a sharp-pointed end bevelled along a plane extending downwardly and outwardly from the inner side of said leg to the end thereof, and the other of said legs having a substantially U-shaped hook end.

3. A fastening device for securing rigid type shingles to fiber insulation sheathing board, said fastening device comprising a single piece of wire bent to form a hooked leg and a pronged leg with a substantially U-shaped connection therebetween, said legs extending in the same general direction from said connection and at an angle of approximately 30 to 60 degrees with respect to one another, said hooked leg extending substantially at a right angle from said connection said pronged leg being bevelled along a plane extending downwardly and outwardly from the inner side of said leg to the end thereof.

4. Means for securing shingles to sheathing board having relatively low nail-holding power, said means comprising a wire clip having a pair of legs, one of said legs having its ends bent in opposite directions to form right angular lateral extensions each of a length approximately equal to the thickness of the shingles to be secured thereby, one of said extensions terminating in an upwardly extending pronged end, the other leg of said pair extending at an obtuse angle with respect to the other of said extensions, said other leg terminating in a sharpened prong beveled along a plane extending downwardly and outwardly from the inner side of said leg to the end thereof.

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