Nov. 2, 1948. H. ABRAHAM 2,452,708

INTERLOCKING STRIP-SHINGLES

Filed March 6, 1947

Fig. 1

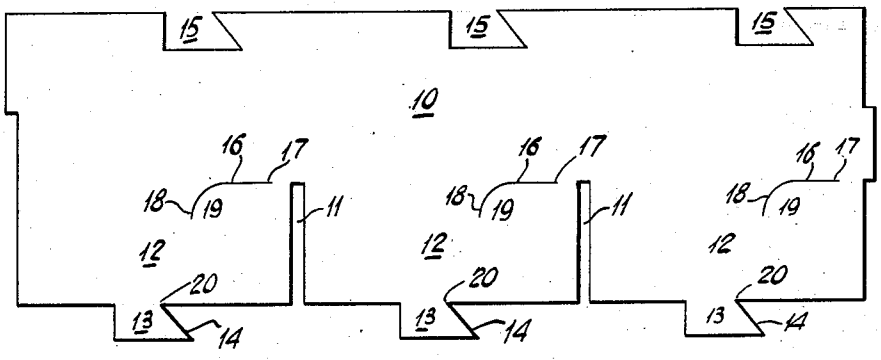


Fig. 2

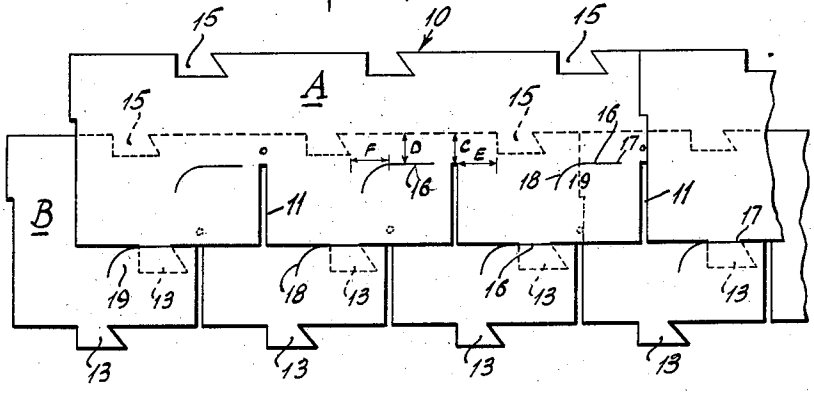


Fig. 3

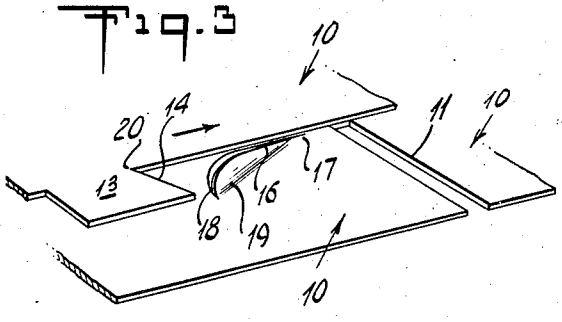
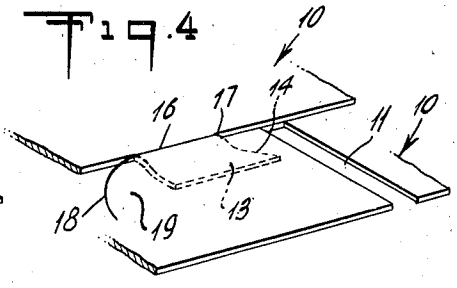


Fig. 4



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INTERLOCKING STRIP SHINGLES

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3 Claims. (Cl. 108—7)

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This invention relates to interlocking strip-shingles, and in particular to improvements in strip-shingles of the type known as "square-butt strips."

Roofing elements of that type are of oblong shape, having the lower portion which is exposed to the weather when laid, divided or separated by narrow vertical cut-outs or slots into a plurality of equi-spaced units, of uniform widths. When the strips are laid in overlapping relation with like strips and with the butts aligned in successive courses, said units simulate the appearance of the exposed butts of individual shingles laid in a like manner.

One disadvantage of the conventional square-butt strip is that when laid its exposed units are free from fastening, and consequently are liable to be raised by the wind, or from other causes, and thus not only give the roof an unsightly appearance but permit entrance of moisture and rain causing leakage.

I am aware that various proposals have been made to overcome that objection. For instance, shingle forms have been devised that embody butt-locking features, however the prior art strips of that kind have not proven commercially practicable either because they were difficult to apply, or did not afford adequate coverage at all points to guard against entrance of moisture or rain, or consumed an uneconomically great amount of area per "square," or gave the roof an undesirable appearance, as well as for other reasons. It has also been proposed to use separate metal fasteners to lock down the butts, but use of such fasteners not only is an extra expense, but also increases the labor cost of applying the shingles.

Having in mind the limitations of the prior art, it is an object of my invention to provide strip-shingles of the square-butt type that can be easily and quickly applied with the butts securely locked down.

Another object is to provide strip-shingles of that type of such form and construction as to provide sufficient lap at all points in the vicinity of the locks to guard effectively against leakage. The strips of the present invention consume substantially the same area of material per "square" and have the same amount of overall headlap as do conventional square-butt strips of the same dimensions.

A still further object is to provide interlocking strip-shingles of the square-butt type that can be applied to a roof with their butts fastened, and which when so laid give the same appearance

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as a roof covered with conventional square-butt strips.

The invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of the improved strip-shingle;

Fig. 2 is a plan view, partly fragmentary, of two courses of strips laid in interlocked relation;

Fig. 3 is a fragmentary perspective view of two strips in position before being interlocked; and

Fig. 4 is a similar view showing the strips interlocked.

The shingle, in the preferred form shown, consists of a substantially oblong shaped strip 10 made of bituminized flexible roofing material, such as is commonly known as "asphalt roofing," and which may be faced on its exposed weather surface with mineral granules or the like. The portion of the strip that is intended to be exposed when laid is divided by vertical, parallel-sided slots 11 into a plurality of rectangular shingle-simulating units 12. These features are common in the conventional type of square-butt strips. The joints between the strips of successive courses are customarily staggered either in halves or thirds with a like staggering of the butts. The strips of my invention are particularly designed to be laid with the joints and butts of successive courses staggered in thirds.

According to the present improvement each unit 12 is formed with a tab 13 approximately midway between the side edges of the butt and extending downwardly from its lower edge. Each tab has one lateral edge 14 cut on an oblique line. Since the tabs are complementary in shape to the cut-outs 15 in the upper edge of the strip, the strips may be cut from a web of roofing material with a minimum of waste.

Narrow openings 16, which may be slits or slots, are formed through the body of the strip for interlocking engagement with the tabs 13 of like strips. These openings are disposed in substantially horizontal alignment with the upper end of the vertical slots 11. Each opening is of about the same length as the width of a tab 13 at its neck, that is at the portion where it joins the lower edge of the unit 12, and each opening has one end 17 thereof spaced inwardly from the upper end of the adjacent slot 11. The other end of each opening 16 terminates in a downwardly extending slit 18 which is preferably curved as shown. The slits 18, together with the openings 16, form flaps 19 in the body of the strip that may be easily lifted up somewhat to facilitate the insertion of the tabs into the openings.

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The strips are laid on the roof deck in overlapping course and are nailed in the usual manner. After the strips of one course have been laid, the flaps 19 of those strips are bent slightly upward and then a strip of the next upper course is moved bodily in a longitudinal direction, as indicated in Fig. 3, so that all of the tabs of said upper strip will simultaneously be inserted under the flaps 19 and into engagement with the openings 16 of the underlying strip. The longitudinal movement is continued until the tabs of one strip are fully inserted and engaged in the openings 16 of the other, as illustrated in Fig. 4, thus locking the two together with the butts of the upper strip held down. After the strips are so engaged, but before nailing the upper one, the latter is pulled up tightly to catch the corners 20 of its tabs in the ends 17 of the openings of the underlying strip. Since the material of which the strips are made is flexible, the flaps 19 raised during the application of the strips will flatten themselves down to the plane of the roof.

The openings 16 and the tabs 13 are so arranged and proportioned relatively to each other that when the strips are applied on the roof in interlocked relation there will be sufficient coverage of material at all points in the vicinity of the locks to guard against passage through the covering of any rain water or moisture that may drain down the roof or be blown against it by the wind. My improved interlocking strips provide the same amount of headlap above the upper end of the slots as do the conventional square-butt strips of corresponding dimensions but which do not interlock. In Fig. 2 the headlap of strip A on strip B is indicated by the vertical line C. As the openings 16 are in horizontal alignment with the upper end of the slots 11, the same amount of headlap, indicated by the vertical line D, is provided above the openings as above the slots. Furthermore, the upper end of each slot of the overlying strip is spaced horizontally from the adjacent right-hand cut-out 15 of the underlying strip, as indicated by the horizontal line E, and the left-hand end of each opening 16 is spaced horizontally from the adjacent left-hand cut-out 15, indicated by the line F, to provide laps that are greater than or at least equal to the headlap C. The construction affords full protection against entrance of moisture at any point, consonant with accepted standard practice.

Roofings formed of strip-shingles are generally applied to sloping roofs. In a roof formed of my improved strip-shingles, when viewed from the ground, the interlock is hardly noticeable, and the visual effect presented is the same as that of a roof covered with strips of conventional square-butt type laid with the joints of successive courses staggered in thirds.

While I have shown and described a preferred embodiment of the invention, and with reference particularly to strip-shingles of the square-butt type, it is to be understood that modifications thereof may be made within the scope of the claims.

What I claim is:

1. An interlocking square-butt strip-shingle adapted to be laid in courses with like strips to provide a roof covering in which the butts of the strips of successive courses are staggered in thirds, which strips provide the same headlap and require the same amount of material to cover a given area of roof surface as do square-butt strips of the non-interlocking type having the same over-all dimensions, said shingle consisting of an approximately oblong shaped strip of flexible bituminized roofing material having the portion thereof which is exposed when laid divided by vertical slots into a plurality of rectangular shingle-simulating units, each unit having a locking tab along its lower edge, cut-outs in the upper edge of the strip complementary in shape to said tabs, a plurality of narrow openings in the body of the strip, said openings being arranged in substantially horizontal alignment with the upper end of the slots but spaced therefrom, each of said openings terminating at the other end in a downwardly extending slit to provide flap portions that can be raised temporarily out of their normal plane to permit of simultaneous insertion of all of the tabs of a like overlying strip into engagement with the openings of the underlying strip by longitudinal movement of said overlying strip.

2. An interlocking square-butt strip-shingle adapted to be laid in courses with like strips to provide a roof covering in which the butts of the strips of successive courses are staggered in thirds, which strips provide the same headlap and require the same amount of material to cover a given area of roof surface as do square-butt strips of the non-interlocking type having the same over-all dimensions, said shingle consisting of an approximately oblong shaped strip of flexible bituminized roofing material having the portion thereof which is exposed when laid divided by vertical slots into a plurality of rectangular shingle-simulating units, each unit having a locking tab along its lower edge, each tab having one oblique side edge, cut-outs in the upper edge of the strip complementary in shape to said tabs, a plurality of narrow openings in the body of the strip, said openings being arranged in substantially horizontal alignment with the upper end of the slots but spaced therefrom, each of said openings terminating at the other end in a downwardly extending slit to provide flap portions that can be raised temporarily out of their normal plane to permit of simultaneous insertion of all of the tabs of a like overlying strip into engagement with the openings of the underlying strip by longitudinal movement of said overlying strip and with the corners formed by the oblique edge of the tabs of the overlying strip caught in an end of the openings of the underlying strip.

3. An interlocking strip-shingle having the portion thereof which is exposed when laid divided into a plurality of shingle-simulating units, each unit having a locking tab extending downwardly from approximately the middle of its lower edge, and a plurality of narrow openings in the body of the strip in substantially horizontal alignment with the upper end of the shingle-simulating units and spaced from the side edges thereof, said openings each terminating at one end in a downwardly extending slit to provide flap portions that can be raised temporarily out of their normal plane to permit of inserting all of the tabs of a like overlying strip into engagement with the openings of the underlying strip by longitudinal movement of the former.

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No references cited.

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