Sept. 19, 1939.

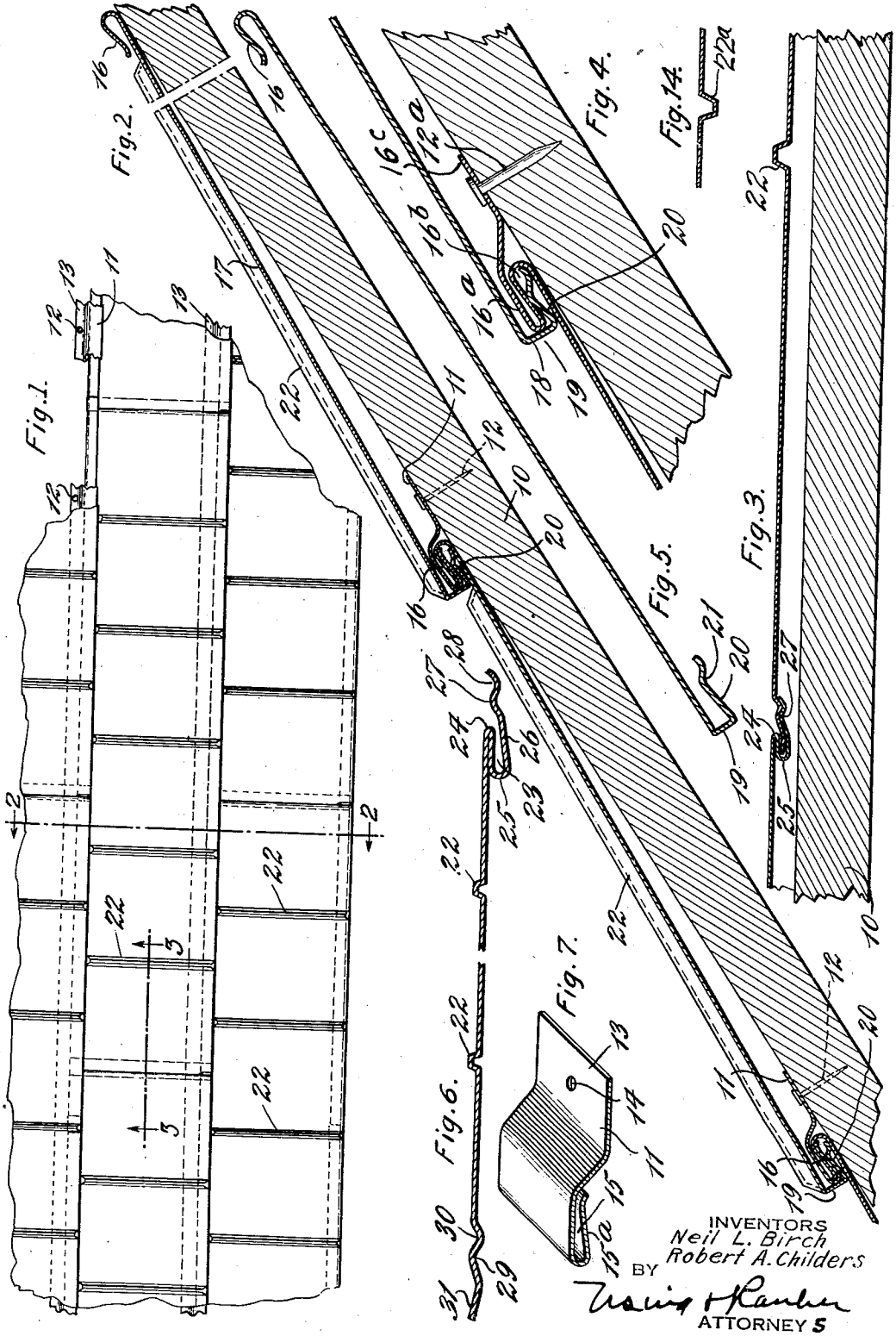
N. L. BIRCH ET AL

2,173,774

STRIP SHINGLE

Filed Dec. 20, 1937

2 Sheets-Sheet 1

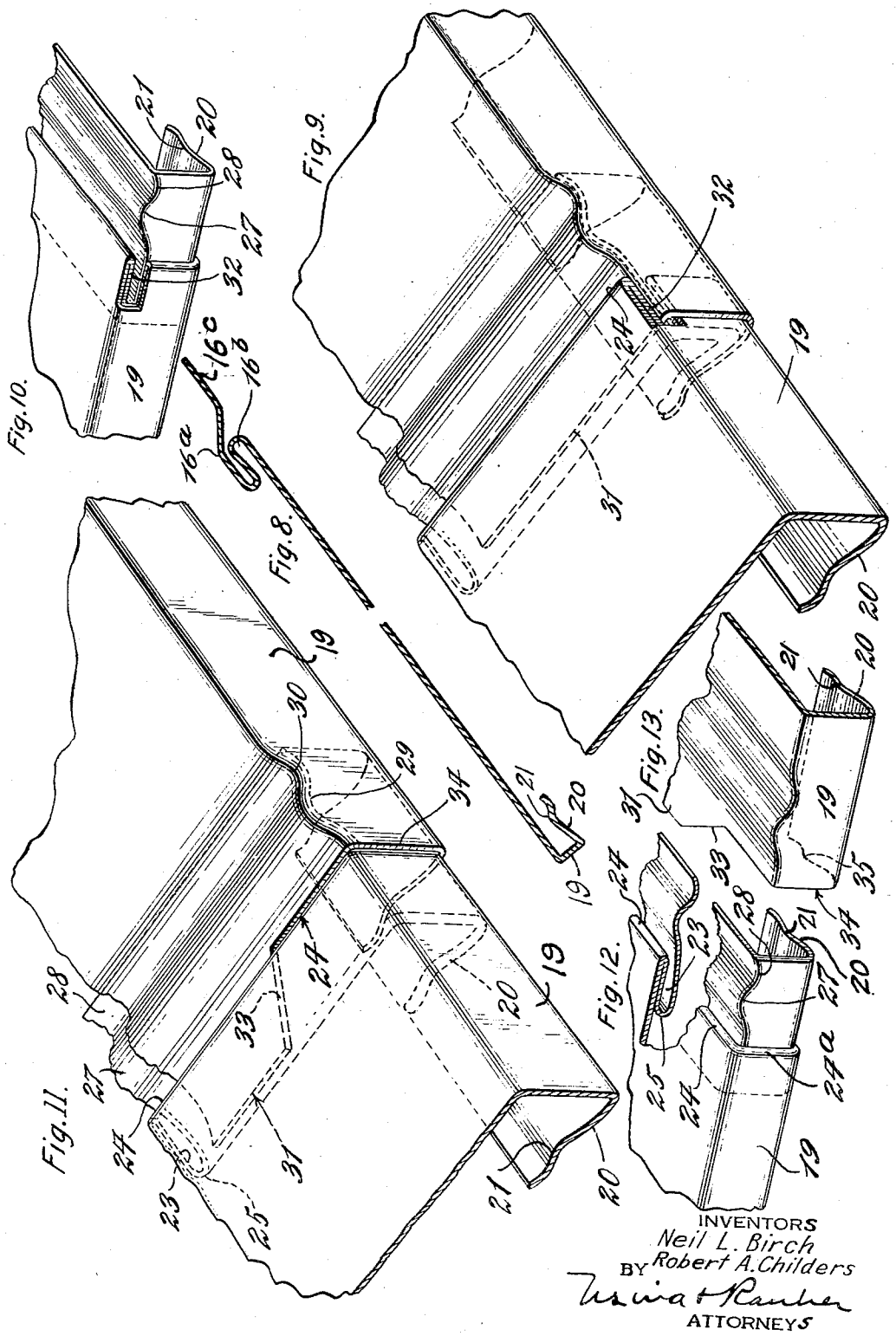


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STRIP SHINGLE

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Application December 20, 1937, Serial No. 180,873

2 Claims. (Cl. 108—17)

This invention relates to improvements in weatherproof coverings adapted to be used either for roofing or siding and aims to provide an improved construction of metallic strip shingle, which will have a good appearance and will simulate either shingled roofing or siding. Among the novel features herein described the improved shingle is formed of a long strip-like body or sheet as measured transversely, which is relatively shallow as measured from top to bottom. This body portion has oppositely bent hook portions at or near its top and bottom extremities and respective tongue and groove portions at its side edges, the groove portion at one edge extending around the bottom hook portion and the lower corner of the shingle being of such construction that the tongue of one shingle can be readily engaged with the grooved portion of a similar adjacent shingle and the hook portions of such interengaged shingles can telescopically overlap. This construction is secured either by slitting one lower corner of the shingle or by cutting away or notching out the lower corner of the tongue and the part of the shingle adjacent thereto. These and other specific constructional features of the invention are hereinafter more fully described, claimed and illustrated in detail in the accompanying drawings, in which—

Fig. 1 is a plan view of a portion of a roof covered with strip shingles embodying the present invetnion; Fig. 2 is an enlarged section on line 2—2 of Fig. 1; Fig. 3 is a cross-section at right angles thereto on line 3—3 of Fig. 1, showing the manner of interlocking adjacent strip shingles at their side edges; Fig. 4 is an enlarged detail view illustrating a detailed modification; Fig. 5 is a detail view in cross-section of one of the shingles taken substantially on line 2—2 of Fig. 1; Fig. 6 is an enlarged detail view of a single shingle detached, taken on line 3—3 of Fig. 1, an intermediate portion being broken away, so as to permit showing on a legible scale; Fig. 7 is a detail perspective view of a shingle-holding cleat shown in Fig. 2; Fig. 8 is a detail view of the type of shingle shown in Fig. 4, wherein the holding cleat is formed integral with the shingle at the upper end thereof; Fig. 9 is a perspective view showing the bottom corners of two contiguous shingles interlocked with one another along their bottom and side edges; Fig. 10 is a detail view of the lower corner of one of the shingles shown in Fig. 9; Fig. 11 is a perspective view showing the bottom corners of two contiguous shingles interlocked with one another along their side edges by a modified type of interlock; Figs. 12 and 13 are perspective views of the lower corners of the shingles shown in Fig. 11, the views being disposed substantially in the relative positions that a pair of shingles are adapted to occupy just prior to being interlocked with one another; Fig. 14 illustrates an alternative detail.

Referring in detail to the drawings, 10 represents decking or sheathing boards to which a weather surface covering of our invention is adapted to be applied. In the embodiment of the invention illustrated in Figs. 1 and 2, at spaced intervals, cleats 11 are secured to the roofing by nails or suitable fastening devices, indicated at 12. Each cleat is bent to the hook-like form shown in perspective in Fig. 12, the upper extremity 13 of the cleat being adapted to seat on the roof and having a plurality of perforations 14 therein to facilitate passage of the nails 12 therethrough. On its lower end, each cleat is bent around to the hook-like configuration shown in Fig. 7 and providing a throat 15 adapted to receive a top hook portion 16 of the strip shingle. The extremity of the hook portion 16, as shown in Fig. 2, enters the throat 15 and the coaction of the parts when assembled is such that the cleat prevents upward movement of the shingle.

Each shingle strip, illustrated generally by numeral 17 in the drawings, has a bottom hook portion 18 the wall 19 of which is substantially perpendicular to the surface of the body of the shingle. Extending inwardly and upwardly from the wall 19, there is a flange 20, which is bent so as to form the angular upwardly directed portion 21, which portion is designedly intended to make a yielding engagement with the wall 15a of the hooked portion of the cleat. When the parts are assembled, as in Fig. 2, it is therefore apparent that there is an interlock between the upper end of one shingle, the lower end of the shingle thereabove and the cleat which is nailed to the roof.

In the modification shown in Fig. 4, instead of utilizing a separate cleat nailed to the roof the upper end of the shingle strip is provided with an upper hooked portion 16a, which is formed by folding over the upper end of the shingle to the configuration shown in Fig. 8, so as to provide a securing flange 16c at the top of the shingle, which is adapted to be nailed to the deck of the roofing by a nail 12a shown in Fig. 4. In this embodiment of the invention, the flange 20 at the lower end of a coacting upwardly extending shingle will make a yielding

engagement with the throat portion 16b in much the same manner that the flange 20 interengages with the throat portion of the cleat of Fig. 2. The air space between the inclined flange of an upper shingle and the underlying surface of a lower shingle serves as a break to prevent capillary action, which would otherwise tend to draw water between the overlapped portions.

The strip shingles of our invention are relatively short, as measured from top to bottom, but are of considerable length, as measured from side to side. And to make such a long strip resemble several shingles, the length of the strip, as measured from side to side, is broken up by a plurality of division ridges 22, which give the long strip the appearance of a plurality of shingles. These division ridges may be upstanding as in Fig. 3 or alternatively they may be formed as depressions, such as shown at 22a in Fig. 14. At the side edges, the shingles of our invention are interlocked and because of the interengagement of the hooked bottom end of the lower shingle with the upper end of another shingle special provision must be made to permit the ready assemblage of the parts.

For interlocking the side edges of the contiguous shingle strips, we provide along one side edge of each shingle strip a locking groove 23, which is formed by folding the side portion of the shingle, as indicated at the fold 24 in Fig. 6. The side portion is again bent around, as indicated at 25, so as to form the lower wall portion 26 of the side groove. This lower wall portion is shaped by a suitable die, so as to provide a side bead 27 and an indentation 28.

The opposite end of each sheet is subjected to a bending operation between dies, so as to form an upward depression 29 and a side rib 30. The portion between the depression 29 and the side extremity at that end of the sheet forms tongue 31, which is adapted to engage the side groove 23 of a contiguous sheet. With any two sheets alongside of one another interlocked, as shown in Fig. 3, the tongue 31 along the edge of one sheet will engage the groove 23 of the adjacent sheet and similarly the bead 27 of one sheet will engage the depression 29 of the other and the rib 30 of the one sheet will engage the side indentation 28 of the adjacent sheet. In order that a plurality of contiguous sheets may be interlocked both along the top and bottom edges and along their side edges and still be readily assembled, it is deemed important to provide the detailed joint constructions shown in either Figs. 9 or 11.

In the joint construction of Fig. 9, two adjacent shingles are shown properly assembled in side to side relationship. To permit of such assembly, a slit 32 is formed in one lower corner of the shingle at the intersection of the end wall 19 and the folded portion 24. This slit extends laterally for a distance sufficient to permit the side tongue 31 of the adjacent shingle to be forced laterally for a distance sufficient to make a good water-tight joint, the end of the slit approximately coinciding with the inner wall of the bent portion 25, which defines the inner extremity of the side groove 23. Thus, when the parts are properly assembled, we have in effect a tongue and groove connection between the adjacent side edges and also the interlocked engagement of the side beads 27 and ribs 30 with the depressions 29 and indentations 28.

In the modification of Figs. 11 to 13 inclusive, the strip shingles will have the upper and lower hook portions, such as shown in either Fig. 2 or Fig. 4 and the side edges of the sheets will be bent to the configuration shown in Fig. 6, so as to provide the same arrangement of tongue and groove portions 31 and 33 and the depressed portions 29 and rib 30 for engagement with side bead 27 and indentation 28. In this modification, however, in order to facilitate the side to side interengagement of adjacent sheets, the tongue 31 along one edge of the sheet is cut away, so as to provide a notch, such as indicated at 33, in Figs. 11 and 13.

By notching out the lower end of the tongue 31, as indicated at 33 in Fig. 13 and by cutting off a corresponding portion from the lower end wall 19 of the sheet, along the line 34 and continuing this cut-away portion along the line 35 of the flange 20, it will be apparent that, when the tongue 31 is inserted in the side groove 23, the edge of the notch can be moved into abutment with the folded edge 24 of the adjacent sheet. Similarly, the edges 34 and 35 of the cut-away portion of the lower ends of the shingle and flange can be abutted against the fold 24a of the folded portion, where it extends downwardly to follow the configuration of the end wall 19 of the lower portion of the shingle.

In all embodiments of the invention illustrated, the strip shingle may be said to comprise a body portion with oppositely bent hook-like portions at the top and bottom extremities thereof and side portions shaped to provide a tongue on one side and a groove on the opposite side, the tongues and grooves of adjacent sheets adapted to be interlocked with one another and adjacent such tongue and groove portions the body of the sheet may be defined as being bent to an undulating formation, so as to provide an arrangement in which overlapping side portions of adjacent sheets will interlock with one another in such a way as to resist lateral separation of the sheets.

The interlocking of the oppositely bent top and bottom portions serves to prevent any overlying shingle from separating upwardly from the shingle thereunder and inasmuch as the sheets are in turn secured to the roof or other structure which they cover it is apparent that the entire weather surface-covering formed by a multiplicity of shingles of our invention may be said to constitute an interlocked weather surface-construction comprising a plurality of units so related and integrated with one another that they resist separation both laterally and longitudinally.

While we have described quite specifically certain detailed features of the embodiments of the invention herein illustrated it is not to be construed that we are limited thereto since various modifications and substitutions of equivalents may be made by those skilled in the art without departure from the invention as described in the appended claims.

What we claim is:

1. A strip shingle comprising a sheet metal body portion having oppositely bent hook portions at its top and bottom extremities and respective tongue and grooved portions at its side edges, the grooved portion extending around the bottom hook portion, a lower corner of the shingle having a slit, opening into the grooved portion thereof, so that the tongue portion of one shingle can be engaged with the grooved portion of a similar shingle and the hooked portions of such interengaged shingles can telescopically overlap.

2. A strip shingle comprising a sheet metal

body having oppositely bent hook portions at its top and bottom extremities and side portions shaped to provide a tongue along one side edge of the sheet and a grooved portion along the opposite side edge of the sheet, the body of the sheet being bent adjacent such tongue and groove portions to an undulating form so as to provide a structure in which the contacting side portions of adjacent shingles will interlock with one another in such a way as to resist lateral separation of the shingles, a lower corner of the shingle having a slit opening into the grooved portion thereof so that the tongue portion of one shingle can be engaged with the grooved portion of a similar shingle and the hooked portions of such interengaged shingles can telescopically overlap.

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