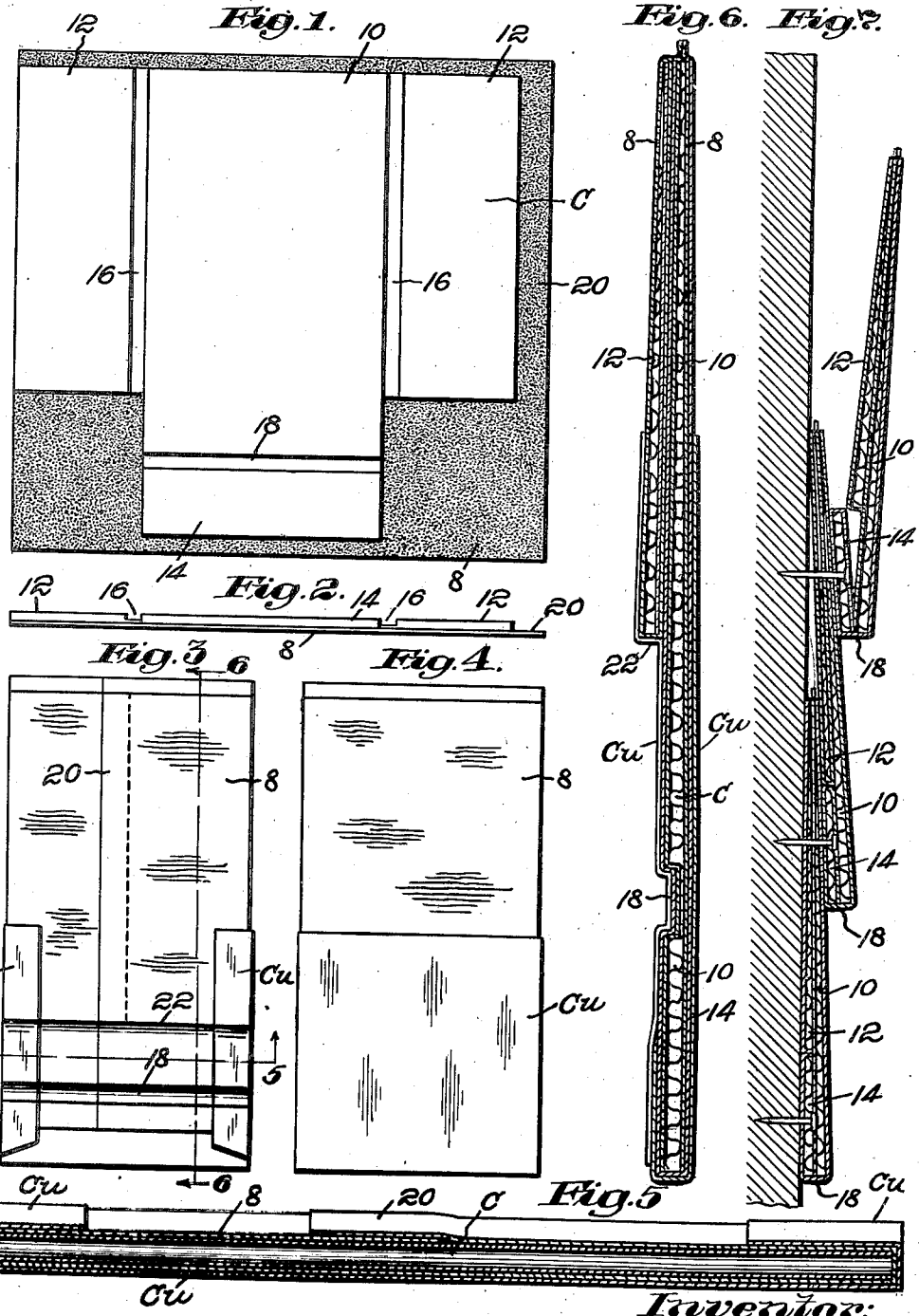
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BUILDING MATERIAL

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BUILDING MATERIAL

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This invention relates to materials used in building construction and more particularly to elements which may take the general form of a shingle, a clapboard or the like for roofing or siding purposes. The object is to provide an improved construction whereby a light, durable and highly weather-resistant sheathing may be provided for a roof or wall. For convenience in the following description I will use the specific word "shingle".

My invention will be well understood by reference to the following description taken in connection with the accompanying drawing, wherein:

Fig. 1 is a plan view illustrating a stage in the construction of the improved shingle;

Fig. 2 is an end view thereof;

Figs. 3 and 4 are rear and front views respectively of the completed shingle;

Figs. 5 and 6 are sections respectively on the lines 5—5 and 6—6 of Fig. 3 but on a larger scale; and

Fig. 7 is a simplified view chiefly in vertical section illustrating the method of applying the shingle.

I will first describe briefly the general construction of the shingle shown. It comprises a core with a bulk-giving body C (Figs. 5 and 6) for which I prefer to use double-faced corrugated cardboard. This is enclosed within a sealed covering of water-resisting material, preferably a sheet of asphalt-saturated craped paper 8, which may be of the type described in my Patent No. 1,984,910, Dec. 18, 1934. At least that portion of the shingle which is exposed to the weather is covered with a weather-resisting material, herein light sheet copper as denoted by the symbol Cu used as a reference letter. This may be of a gauge weighing a few ounces per square foot and may be conveniently characterized as "foil". Referring to Figs. 3 and 4 of the drawing, the copper covers the entire outer face of the butt portion of the shingle and has its margins folded over on the rear, as seen in Fig. 3. In the present instance the upper end of the shingle and the rear face are not covered, although they might be if desired.

A suitable taper for the shingle may be provided by a differential crushing of the corrugations, as illustrated in Fig. 6. It may be remarked here that for simplicity the corrugated central sheet of the board has in Fig. 6 been shown by a single line while Fig. 7 has been further simplified and it has not been attempted to indicate therein by section lining all the various thicknesses of material utilized in the construction more fully illustrated by the other figures.

The core C may consist of a plurality of thicknesses of corrugated board to give proper bulk and in the illustrative example of the invention I have shown such multiple thicknesses as afforded by suitable folding of a single sheet. Referring to Fig. 1, the core C there comprises a central body portion 10 and lateral portions 12 of lesser height defining a downward extension 14. As will appear, the length of the wings 12 plus a half the vertical length of the extension 14 corresponds substantially to the length of the finished shingle when it is in place. The wings 12 are half the width of the central body 10 and are adapted to be folded over thereon, and fold lines 16 are here formed by crushing down the corrugated board toward one side thereof, the further side viewing Fig. 1, so that the material in these zones is disposed substantially in the plane of the outer covering sheet forming a sheet-like connection between the central body and the wings of a width substantially equal to the combined thicknesses of the connected parts. A transverse fold line 18 is similarly formed midway of the extension 14 so that if the distal end of the latter is folded up it will reach substantially to the lower edges of the wings 12.

The blank for the core, as shown in Fig. 1, may be disposed upon the sheet 8 of asphalt-saturated paper, of slightly greater height and of sufficient width to provide the overlap margin 20. The face of the core, as seen in Fig. 1, may be coated with asphalt and the two wings 12 then folded upwardly, viewing the figure, over against the face of the main body 10, the outer edges of the wings abutting centrally of the central portion 10. As seen in Fig. 3, the margin 20 will form an overlap sealing the covering longitudinally of the shingle and the paper 8 is pressed down to the contour of the enclosed core and sealed as is facilitated by the somewhat expansible character given it by craping. The upper end of the shingle may then be rolled or pressed to crush the corrugations of the core differentially and provide the taper illustrated in Fig. 6. The lower or butt portion of the shingle may then be covered with the foil Cu, the folded over margins or flanges of the latter being pressed into close adherence to the body, as is permitted by the light and flexible character of the metal. The sheeting is securely held by the asphalt with which the paper 8 is saturated. For clearness I have here described the folding zone 18 as formed initially in the core blank. If desired, it might be formed after the core is covered, the elasticity of the craped paper covering 8 and the malleability of the copper permitting this to be done.

As so far described, the shingle has the form shown in Fig. 6 with a tapered upper portion comprising two thicknesses of corrugated board, the outer of which extends therefrom defining an inner shoulder 22 (Fig. 6), and this extending portion has the forwardly depressed folding zone 18 substantially midway of its length. The lower

portion of the extension 14 may be folded rearwardly relative to the body of the shingle, bringing its distal edge opposite the shoulder 22 and providing a uniform tapered structure with the weather-resistant coating such as the copper foil Cu extending unbroken around the thick butt thus provided. Thus in applying the shingles to a building they may be placed in position with the tapered end downwardly and the left hand side, viewing Fig. 6, outwardly and nailed through the distal portion of the extension 14 outwardly of the crease line 18. The main body of the shingle may then be folded up about this line, covering over the heads of the nails, as illustrated in the upper portion of Fig. 7, and the sheathing completed in this manner.

The method of making the fold at 18 as illustrated in Fig. 6 with some necessary exaggeration of the thicknesses of the various layers, and similarly the folds at 16, permit a square joint with a firm edge comprising the compacted thicknesses which are formed by the crushing into a sheet-like formation and which bridge over from the relatively remote faces of the connected parts across the edges of the foldably connected sections and provide a firm support for the copper covering which extends unbroken across the fold so made. Moreover, there is no strain placed upon the copper which might tend to crack or tear it.

I have described a preferred form of the invention but it will be understood that a building element could be constructed embodying a reversely folding butt extension wherein the upper tapered portion was formed in ways other than here described, and also that the particular method of forming a tapered body herein utilized for forming the upper portion of the shingle might be utilized to form elements not including the feature of the foldable butt.

I am aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and I therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A siding or roofing element comprising a core having an upper tapered portion and a lower exterior extension defining a shoulder, the extension having a transverse fold line providing a distal portion adapted to be doubled over and extend substantially to said shoulder, and a metal foil over at least that portion of the element which is exposed in use and extending unbroken over the fold line.

2. A siding or roofing element comprising a core of corrugated board having an upper portion in which the corrugations are differentially crushed to provide a taper and a lower exterior section defining a shoulder and having a transverse zone crushed from the inner side to define a transverse fold line providing a distal portion adapted to be doubled over and extend substantially to said shoulder, and a metal foil over at least that portion of the element which is exposed in use and extending unbroken over the fold line.

3. A siding or roofing element comprising a core of corrugated board having the corrugations crushed from one side thereof along linear zones to define fold lines, the board being folded along said lines inwardly toward said side to provide a multiple thickness wherein edges are defined by said lines and a weather-resistant sheet covering over at least that portion of the core which is exposed in use.

4. A siding or roofing element comprising a core of corrugated board including an upper part embodying a plurality of thicknesses which are differentially crushed to provide a taper and a lower extension defining a shoulder, the extension having a transverse fold line whereby it may be doubled over to dispose the lower end adjacent the shoulder, and a metal foil over at least that portion of the element which is exposed in use and extending unbroken over the fold line.

5. A siding or roofing element comprising a body portion and a terminal portion, both of substantial thickness and spaced along a transverse line a distance substantially equal to their combined thicknesses, the portions being joined along one side by a sheet-like connection bridging said space, and a weather resistant covering for said one side of the element over at least the portion thereof which is exposed in use including said connections.

6. A siding or roofing element comprising a body portion and a terminal portion, both of substantial thickness and spaced along a transverse line a distance substantially equal to their combined thicknesses, the portions being joined along one side by a sheet-like connection bridging said space, and a metal foil overlying said one side of the element covering at least the portion thereof which is exposed in use and extending unbroken over said connection.

7. A siding or roofing element comprising a body formed at least in part of corrugated board, the corrugations being crushed toward one side of the element along a zone of a width substantially equal to the combined thicknesses of the uncrushed parts at either side thereof and providing a substantially sheet-like connection between said parts at said one side of the element and a weather-resistant covering for said one side of the element over at least the portion thereof which is exposed in use including said connections.

8. A siding or roofing element comprising a body having a central portion and lateral portions, all of substantial thickness, said lateral portions being spaced from the central portion by zones of a width substantially equal to the combined thicknesses of adjacent portions, the portions being joined by sheet-like connections bridging said zones, the several portions being folded together along said zones to dispose said sheet-like connections at the exterior of the element, and a weather-resistant covering for said one side of the element over at least the portion thereof which is exposed in use including said connections.

9. A siding or roofing element comprising a body formed at least in part of corrugated board, the corrugations being crushed toward one side of the element along zones of a width substantially equal to the combined thicknesses of adjacent portions, the portions being joined by sheet-like connections bridging said zones, the several portions being folded together along said zones to dispose said sheet-like connections at the exterior of the element, and a weather-resistant covering for said one side of the element over at least the portion thereof which is exposed in use including said connections.

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