Jan. 25, 1938. G. I. RAY 2,106,624

ROOFING SHINGLE

Filed Aug. 17, 1936 2 Sheets-Sheet 1

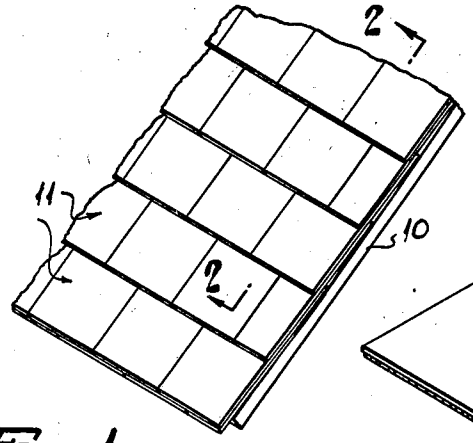


Fig-1

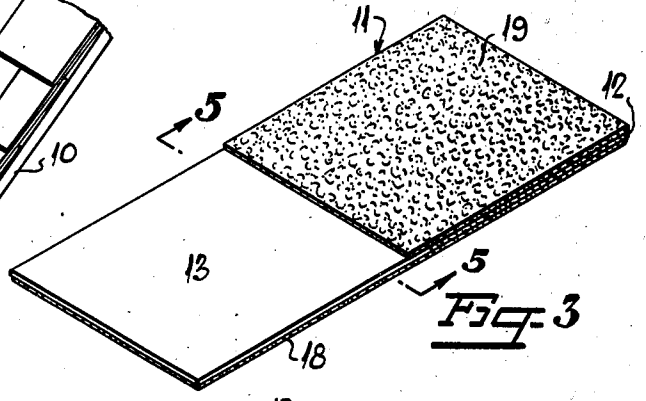


Fig-3

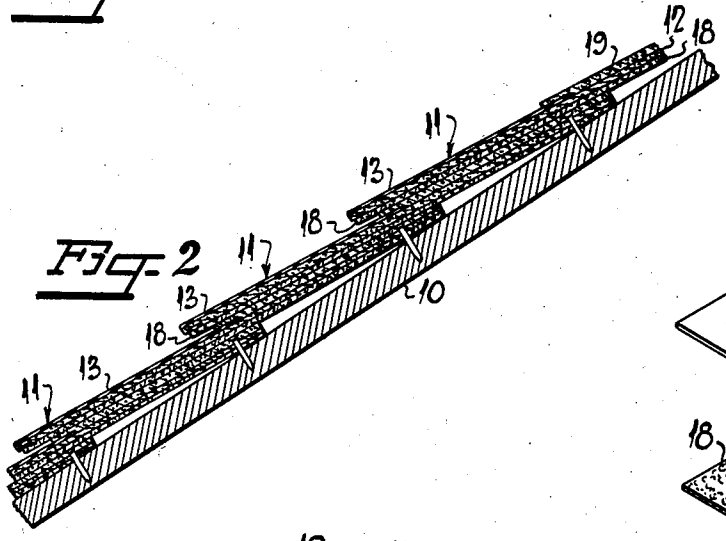


Fig-2

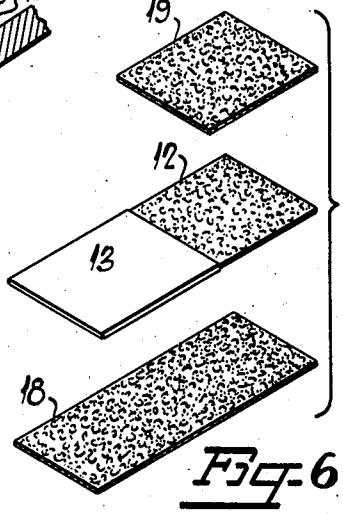


Fig-6

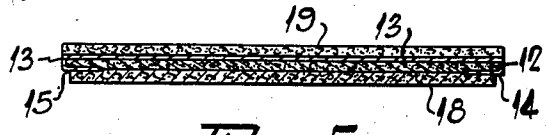


Fig-5

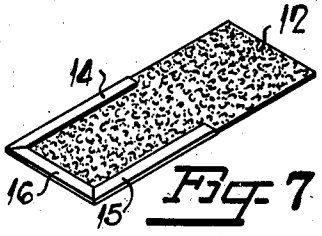


Fig-7

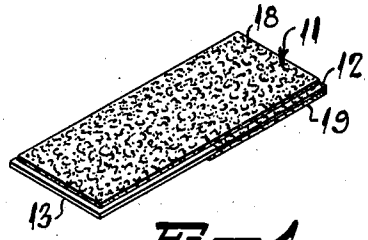


Fig-4

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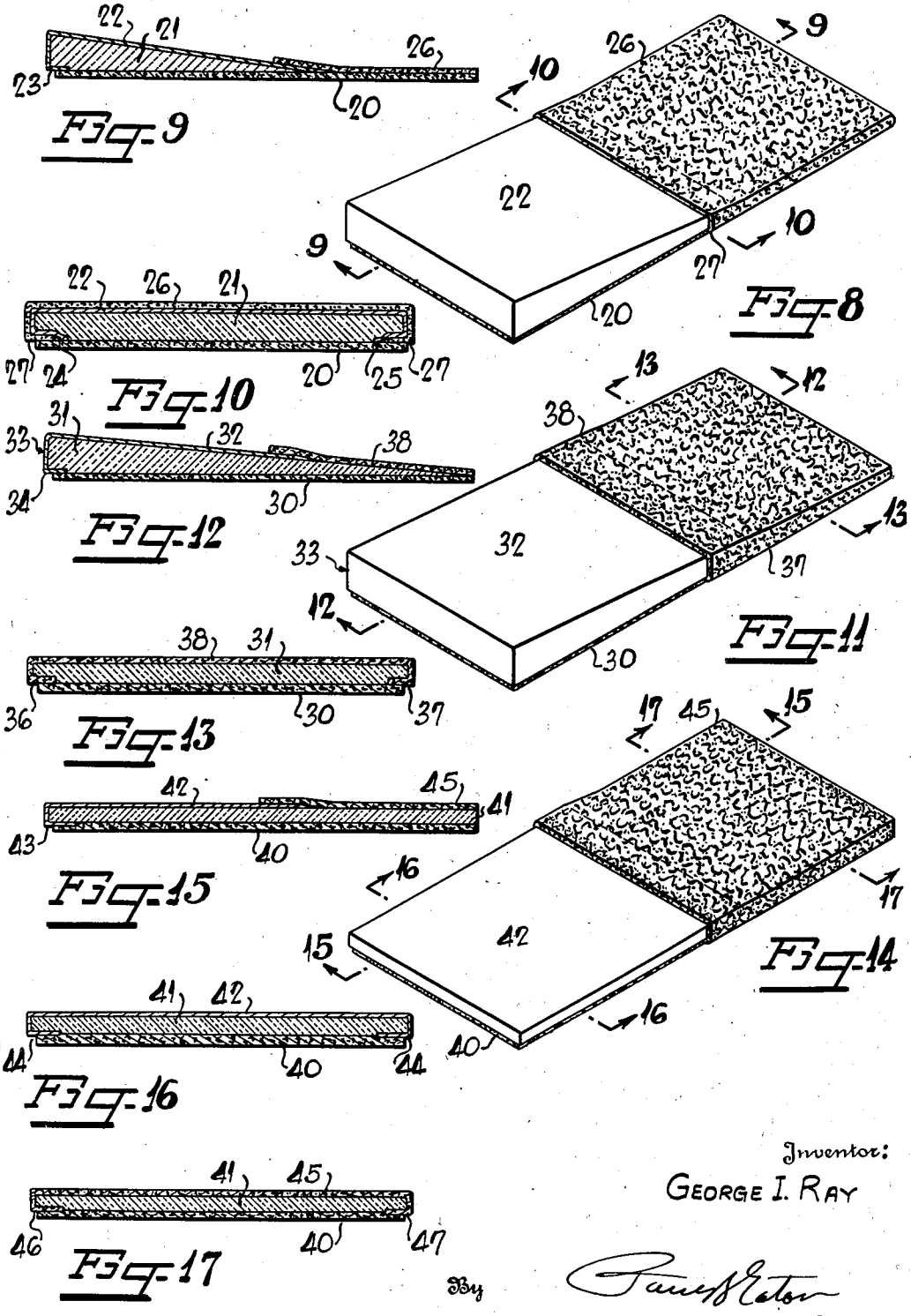
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Jan. 25, 1938. G. I. RAY 2,106,624

ROOFING SHINGLE

Filed Aug. 17, 1936 2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,106,624

ROOFING SHINGLE

George I. Ray, Charlotte, N. C.

Application August 17, 1936, Serial No. 96,503

1 Claim. (Cl. 108—8)

This invention relates to roofing material and more especially to a shingle having the portion thereof which is exposed to the weather, metal clad with a very thin sheet of metal such as copper, brass and the like.

It is an object of this invention to provide a roofing shingle, provided with a sheet metal covering which covers the lower portion of the shingle which is exposed to the outside weather conditions, said shingle having a felt base onto which the metal is folded and having the felt sub-base and a felt top piece extending just short of the point where outside exposure begins and overlapping the upper end of the metal covering which encases the lower part of the shingle.

It is another object of this invention to provide a roofing shingle having a portion thereof which is exposed to the weather covered with a very thin sheet of copper or non-rusting material so that the copper or other material may be oxidized or otherwise treated to provide the desired color effect.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which:—

Figure 1 is an isometric view of a portion of a roof laid with my improved shingle;

Figure 2 is an enlarged vertical sectional view taken along line 2—2 in Figure 1;

Figure 3 is an isometric view of the completed and assembled roofing shingle;

Figure 4 is an inverted isometric view of the shingle;

Figure 5 is a cross-sectional view taken along line 5—5 in Figure 3;

Figure 6 is an isometric exploded view of the component parts of the shingle;

Figure 7 is an isometric view looking at the bottom of the central member in Figure 6;

Figure 8 is an isometric view of a modified form of my building shingle to present a tile effect in the finished roof;

Figure 9 is a longitudinal sectional view taken along line 9—9 in Figure 8;

Figure 10 is a cross-sectional view taken along line 10—10 in Figure 8;

Figure 11 is an isometric view of still another modified form of my roofing shingle;

Figure 12 is a longitudinal sectional view taken along line 12—12 in Figure 11;

Figure 13 is a cross-sectional view taken along line 13—13 in Figure 11;

Figure 14 is an isometric view of yet another modified form of my roofing shingle;

Figure 15 is a longitudinal sectional view taken along line 15—15 in Figure 14;

Figure 16 is a cross-sectional view taken along line 16—16 in Figure 14;

Figure 17 is a cross-sectional view taken along line 17—17 in Figure 14.

Referring more specifically to the drawings, the numeral 10 indicates suitable sheathing on which a roof composed of my shingles 11 is laid. Each of these shingles comprises a base 12 having laid thereon a very thin sheet of copper or other suitable metal 13 which is folded over the outer edges and lapped onto the lower edges as at 14 and 15, and the lower end is likewise lapped over the lower surface of the member 12 as at 16.

When the metal is placed in the position shown in Figure 7, then a suitable felt member 18 is placed beneath the member 12 and a shorter piece of felt 19 is placed above the member 12 in assembled position as shown in Figure 3. By suitable pressure these parts are caused to adhere together, due to the felt being treated with an adhesive substance such as asphalt.

When the shingle is thus assembled, it is ready for use, and is applied in the manner shown in Figures 1 and 2, as any other roofing shingle, which as it is seen, causes the metallic portion 13 to be the portion which is exposed to the weather and therefore presenting the benefits of an everlasting metallic roof, and at the same time, affording the heat insulation qualities of a heavy felt roof.

It will be noted that member 18 is of smaller length and breadth than member 12, and this results in the metallic exposed edges of member 13 projecting outwardly over the felt member 18.

Figures 8 to 10 inclusive, show a modified form of the shingle which comprises a base member 20 which is covered by a very thin sheet of copper or other metal 22 which is lapped over and beneath the edges of insulation wedge 21 as at 23, 24, and 25. This presents a copper or metallic clad portion of the shingle which is exposed to the outside weather conditions and which presents a very thick lower end which causes the roofing to have the appearance of a tile roof.

Disposed above and secured to member 20 is an upper felt layer 26 which laps over the upper end of the metallic portion 22 and is also folded as at 27 beneath the upper end of said portion. This layer is adhesively secured to the base member 20. The base member 20 is impregnated with asphalt or other suitable material so that the filler wedge-shaped insulation block 21 will adhere thereto.

Figures 12 and 13 show still another modified form of the invention having a felt member 30 saturated with asphalt or other adhesive and preservative material and disposed on this is an elongated wedge-shaped insulation block 31 of any suitable material such as cork which extends approximately the entire length of member 30 whereas, member 21 in Figure 9, does not extend but slightly above the half-way mark of member 20. The member 31 likewise is covered with the sheet of suitable metal 32 as in the other form. This metal is folded downwardly to form the lower edge of the shingle 33 and to present a tile-like appearance and the lower end is folded beneath the edges of wedge-shaped member 31 as at 34 in an identical manner to the way metallic covering 22 is folded in the preceding form.

Disposed on top of member 31 near the upper end thereof, is a felt member 38 saturated with any suitable adhesive material such as asphalt which adheres to the upper surface of wedge-shaped member 31 and also adheres to the upper end of the metallic covering 32. The side portions of member 38 are folded around the edges of insulation block 32 as at 36 and 37 in order that moisture may be prevented from contacting the insulation material.

Figures 14 to 16 inclusive, show still another form of the invention in which a felt base 40 is saturated with any suitable preservative and adhesive material such as asphalt is provided. This has secured thereto by adhesion and suitable pressure, a suitable filler or insulating member 41 which is usually of cork. Covering the lower half and extending slightly above the half-way mark of this member 41 is a metal sheeting of very thin material of long-life quality such as copper and indicated by reference character 42. This extends downwardly over the lower end of member 41 and extends inwardly into a chamfered out portion as at 43, at the lower end of member 40. The sides of this metal member 42 likewise are folded downwardly and inwardly beneath the sides of filler member 41 as at 44. It is here noted that member 40 is of a slightly lesser width than the member 41 and its covering 42.

The upper end of the shingle on the upper side thereof has secured to the filler member 41 by adhesion, a felt member 45 saturated with any suitable material such as asphalt to cause it to be preserved and also to cause it to adhere to member 41. This sheet of felt extends downwardly over the upper end of metallic covering 42 and adheres thereto by means of being impregnated with asphalt or any suitable material and being subjected to pressure when the parts are assembled ready for the pressure operation for producing the finished shingles.

The edges of member 51 are folded around the edges of member 41 as at 46 and 47 to prevent moisture from gaining access thereto.

It is thus seen that I have provided a combined metallic and asphalt shingle which has the benefits of an asphalt roof as far as insulation is concerned and which has the everlasting qualities of a metal roof such as copper. It is also seen wherein I have provided various shapes of these shingles so that a tile effect or any other suitable effect can be produced.

It is also seen wherein I can suitably oxidize or otherwise treat the metallic portion to impart the desired color or various types of colors thereto to produce a desired color effect common throughout the entire roof or variegated effect by having the shingles of different colors to form suitable patterns.

In the drawings and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being set forth in the appended claim.

I claim:

A roofing shingle comprising a base member, a sheet of metal covering the upper side and the side edges and the bottom edge of said member and extending beneath the member, a second member disposed on and covering the lower side of said base member and a third member secured to and covering the upper portion of said base member and projecting in overlapping relation above the upper end of the sheet of metal.

GEORGE I. RAY.