

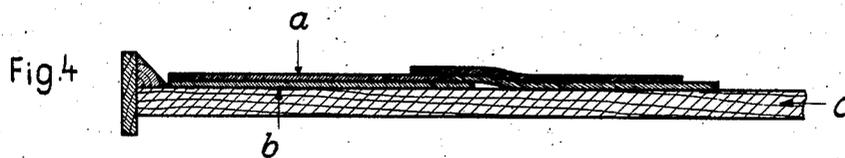
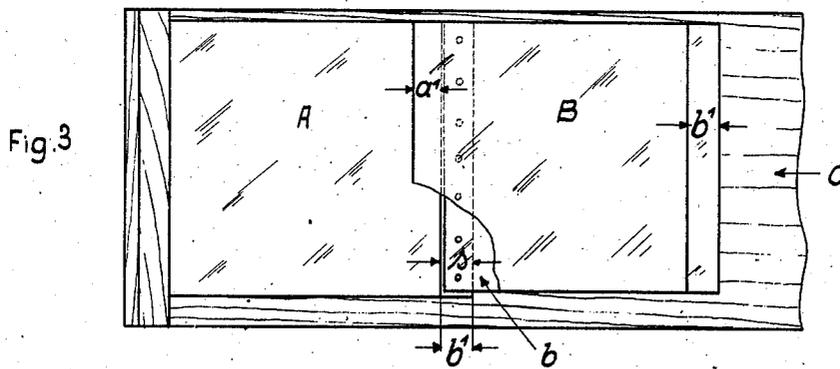
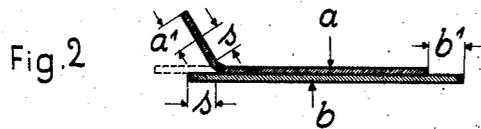
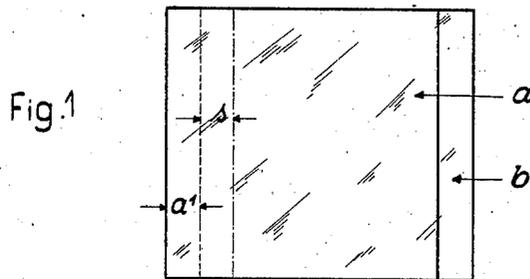
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2,125,694

DOUBLE LAYER CARDBOARD ROOF

Filed April 16, 1936



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# UNITED STATES PATENT OFFICE

2,125,694

## DOUBLE LAYER CARDBOARD ROOF

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1 Claim. (Cl. 108—7)

This invention relates to the production of double-layer cardboard roofs.

The existing method of covering roofs with two layers of standard cardboard united by means of an adhesive is open to serious objections. The first layer is nailed to the roof boarding and immediately afterwards shows all the unevennesses of the boarding in the form of elevations and depressions in its surface. The second layer is pasted onto the first, but it is impossible to apply an adhesive mass that can be spread only while hot in a rapid operation by hand without leaving any gaps. Furthermore, in cold weather or a cold draft of air such an adhesion solidifies usually before the second layer can be pressed on over its entire width. Adhesives that can be applied in the cold state also involve difficulties. The upper layer to be pressed onto the adhesive is tight and perfectly flat when unrolled and completely covers at first in a level manner all elevations and depressions, so that air spaces in the depressions of the first layer are covered also. Owing to the action of the sun, the air in these hollow spaces considerably expands and enlarges and increases the height of these spaces by separating the two cardboard layers at the points where they are united by the adhesive. This process constitutes the first destruction of the roofing. The upper layer increasingly becomes uneven by the formation of cockles.

The invention eliminates the drawbacks mentioned by employing in the production of double-layer pasted cardboard roofs webs comprising two standard cardboard layers pasted together by factory methods. The layers are staggered relative to one another so as to provide a narrow strip free from adhesive.

The method of laying these webs consists in overlapping the lower layers of two consecutive webs, securing them by nailing through the non-adhesive strip to the support and uniting the projecting strip of the top layer with the adjacent one by pasting.

The advantages afforded by the invention are obvious.

After the adhesive has been applied in the factory by machinery at a suitable temperature, the layers are mechanically pressed together, so that they are intimately united and hollow spaces cannot form between them. A roofing of this type cannot be destroyed by solar radiation and, as hollow air-filled spaces between the layers are eliminated, cockles do not appear. Furthermore, mechanical pasting of the layers in a fac-

tory is much more economical than doing this work by hand on the roof. Factory-made webs of cardboard can be more easily transported than two separate layers and an adhesive mass. The finished web can be laid in a single operation whilst the laying of two separate layers and the pasting thereof on the roof would require three operations and three times the time. Dependence upon the weather is reduced, as interference with the various operations on the roof by rain or snow is avoided.

By way of example, the invention is illustrated in the accompanying drawing, in which Figures 1 and 2 show a web consisting of two layers of standard cardboard, and Figs. 3 and 4 indicate how the webs are laid on the roof.

The two layers *a* and *b* are mechanically pasted together and are staggered relative to one another in such manner that the first layer projects beyond the second and, at the opposite edges, the second beyond the first to the extent of a narrow strip *a*<sup>1</sup>, *b*<sup>1</sup>. These strips are free from adhesive. Parallel to the strip *a*<sup>1</sup> a second non-adhesive strip *s* extends between the two layers which are preferably diagonally displaced to provide a projecting non-adhesive strip on both the long and cross sides.

The method of laying the mechanically prepared webs is as follows:

The two webs A and B each consist of two layers of standard cardboard pasted together and are superposed so that the lower layer *b* of the web B lies on the strip *b*<sup>1</sup> of the web A, and both are nailed to the roof boarding *c* while the strips *a*<sup>1</sup>, *s* of the web B are raised. Then the strips *a*<sup>1</sup>, *s* of the web B are provided with an adhesive and pasted across and beyond the nailing onto the respective portion of the web A.

The same method is applied to the angularly abutting side of the web.

I claim:—

A roof covering made up of unit sections, each comprising two layers of cardboard or the like of substantially uniform surface area and disposed one upon the other in offset edge relation, whereby a margin of the lower layer projects beyond the upper layer at one edge and a similar margin of the upper layer projects beyond the proximate edge of the lower layer at the opposite edge, the contacting faces of the layers being cemented together except for a marginal area of the lower layer at the edge adjacent the projecting margin of the upper layer, the sections being applied for roofing purposes with the uncemented margin of the lower layer resting upon

the projecting margin of the lower layer of the preceding unit and abutting the adjacent edge of the upper layer of such preceding unit, the uncemented margin of the lower layer when in position on the projecting margin of the lower layer of the preceding unit providing a double thickness which may be nailed directly to the roof, the projecting margin of the upper layer of the unit being laid and that portion of the upper layer overlying the uncemented portion of the lower layer being designed to be cemented down to

overlie, protect and seal the securing means and to overlie and be secured to the upper layer materially beyond the edge of the upper layer of the preceding section, whereby the roof as a whole presents a double thickness of material throughout its full area and a third thickness overlying and sealed to the roof covering in both directions beyond the meeting edges of adjacent units.

PHILIPP SATTIG. 10