

Aug. 31, 1954

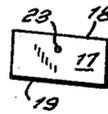
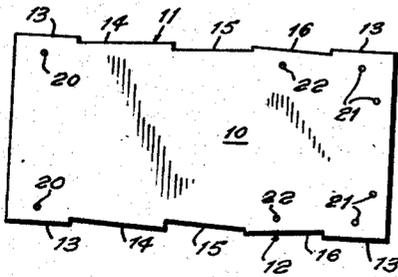
H. ABRAHAM  
ROOF COVERING

2,687,701

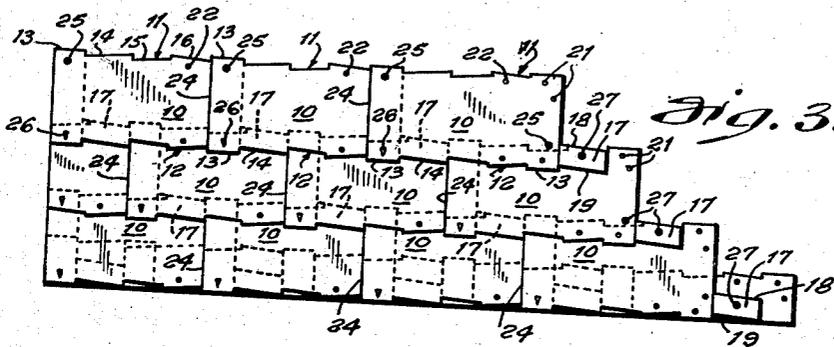
Filed March 24, 1953

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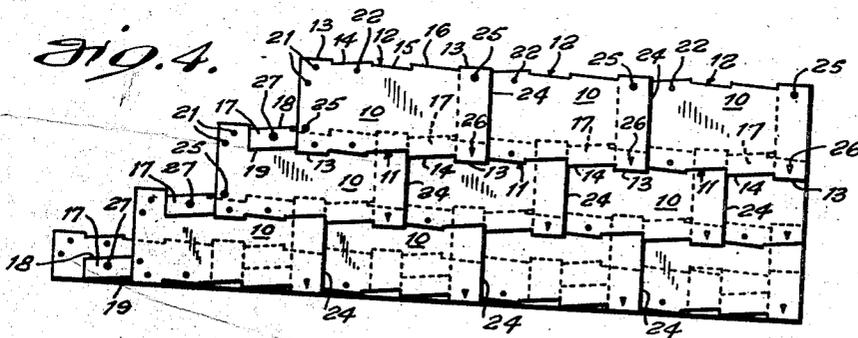
*Fig. 1.*



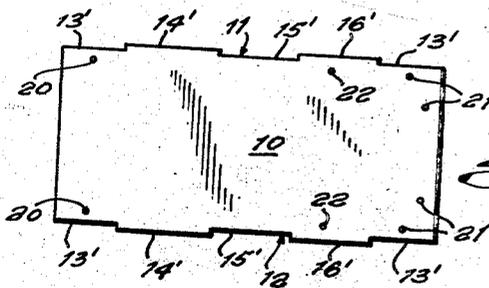
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 10.*



INVENTOR  
HERBERT ABRAHAM  
BY *Herbert Abraham*  
ATTORNEY

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Fig. 5.

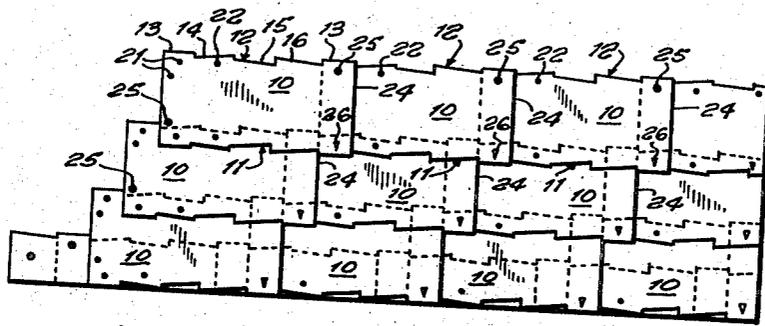
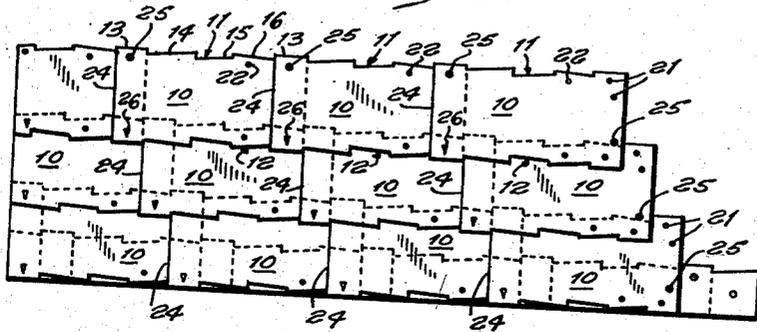


Fig. 6.

Fig. 8.

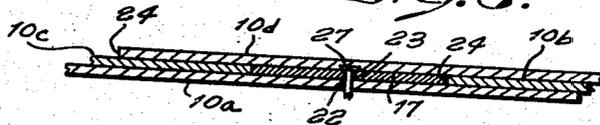


Fig. 9.

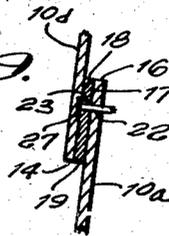
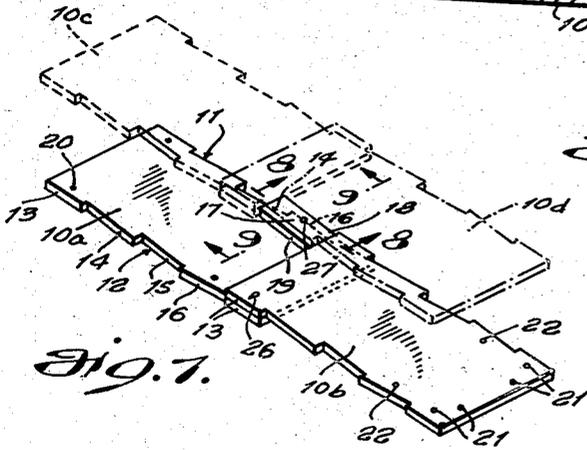


Fig. 7.



INVENTOR  
HERBERT ABRAHAM  
BY *Herbert Abraham*  
ATTORNEY

# UNITED STATES PATENT OFFICE

2,687,701

## ROOF COVERING

Herbert Abraham, New York, N. Y., assignor to  
The Ruberoid Co., New York, N. Y., a corpora-  
tion of New Jersey

Application March 24, 1953, Serial No. 344,403

6 Claims. (Cl. 108—8)

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This invention relates to a roof covering of asbestos-cement or other rigid shingles applied according to the Dutch-Lap method whereby each shingle of a course is sidelapped by an adjacent shingle of that course and is headlapped by portions of shingles of the next upper course.

One object of the invention is to provide a reversible Dutch-Lap shingle having serrated lower and upper edges which shingles may be applied, by reversing or inverting them edgewise, either from right to left or from left to right to effect a roof covering of like attractive or ornamental appearance, in either case, in which the butt edges of the shingles of the several courses consist of a succession of projections and recesses having inclined or horizontal edges.

Another object is to provide a roof covering of shingles having serrated upper and lower edges that may be applied either with the joints staggered in halves, or with the joints zigzagged or stepped as in the case of the conventional Dutch-Lap shingles.

A further object is to provide shingles that have serrated butts and that are more economical in the use of material than the conventional prior art roof shingles.

I accomplish these objects, as well as others, by means of the shingles illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of one form of shingle embodying the invention;

Fig. 2 is a plan view of a spacer for use with the shingles to effect a roof covering in which the joints of the shingles of the several courses are broken in staggered halves;

Fig. 3 is a plan view of a section of a roof covering having the joints broken in halves with the shingles applied from left to right;

Fig. 4 is a similar view showing the shingles laid from right to left;

Fig. 5 is a plan view of a section of a roof covering showing the shingles laid from left to right to provide joints that break in zigzag or stepped formation;

Fig. 6 is a similar view showing the shingles laid from right to left;

Fig. 7 is a perspective view of four shingles applied according to the Dutch-Lap method, and with the use of spacers to break joints in halves;

Fig. 8 is a longitudinal cross section taken on the line 8—8 of Fig. 7;

Fig. 9 is a transverse cross section taken on the line 9—9 of Fig. 7;

Fig. 10 is a plan view of a modified form of the shingle; and,

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Fig. 11 is a plan view of a modified form of spacer.

The shingles of this invention are preferably made of asbestos-cement, although they may be made of any other suitable rigid material adapted for use as a roof covering. The form of the shingle 10 shown in Fig. 1 has serrated top and bottom edges 11 and 12 each formed of a succession of projections and recesses or indentations. In the present instance each of said edges comprise two similar straight end portions, 13, and a plurality of angular or inclined portions 14, 15 and 16. The width, measured horizontally, of the two end portions are the same, each preferably though not necessarily being equal to the extent of the desired sidelap when the shingles are laid. By having the width the same as the extent of sidelap, said portions serve as guides for properly lapping the shingles of a course. For example, with shingles of twenty-four inch width and twelve inch height, designed to be applied with a sidelap of four inches, the width of each end portion 13 will be four inches.

Fig. 2 of the drawings illustrates a spacer member 17 to be used with the shingles when they are to be laid, in either direction, with the joints staggered in halves, as shown in Figs. 3 and 4. The spacer member is preferably made of the same material as the shingle, and has parallel top and bottom edges 18 and 19. The horizontal width of the spacer member is determined by the following formula,  $x = \frac{1}{2}(a-b) - b$ , in which  $a$  is the horizontal width of the shingle,  $b$  is the width of the sidelap, and  $x$  is the horizontal width of the spacer member. Applying this formula, in the case of a shingle of twenty-four inch width designed to be applied with a four inch sidelap, it will be seen that the length of the spacer member for use with such shingle will be six inches. With shingles of twelve inch height, the headlap should preferably be three inches, and accordingly the spacers may each be three inches high so as to correspond with the headlap.

Essential features of the design of the shingle are that its top and bottom edges should be of such formation that they will present exactly the same serrated appearance when the shingle is turned or inverted edgewise to bring the top edge to the bottom, or vice-versa, and that the length and direction of one edge portion of the shingle shall correspond to the length and direction of the correlative edge of the spacer member. For instance, referring again to Figs. 1 and 2, it will be seen that the portion 14 of the bottom edge 12 of the shingle corresponds exactly with the

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bottom edge 19 of the spacer member 17. By reason of this relationship of parts, the butt edge portion 14 of each overlying shingle will be in perfect registration with the lower edge of the underlying spacer member, when the shingles are applied in either direction.

Each shingle has a preformed nail or storm anchor hole 20 adjacent each of its corners at one side edge, and two holes 21 at each of its corners adjacent the opposite side edge. These holes are similar in position, arrangement, and function to the corresponding holes of the conventional type of Dutch-Lap shingle. In addition the shingle has a pair of holes 22, one adjacent the top edge and the other adjacent the bottom edge, of which one or the other serves to permit of passage of the nail that fastens the spacer member, depending upon the direction in which the shingles are laid. The spacer member has a preformed nail hole 23 disposed midway of its width and nearer its top than its bottom edge. In application of the shingles as hereinafter described, the hole 23 in the spacer will fall in registration with one or the other of the holes 22 of a shingle. For the sake of positioning the spacer properly with the shingle upon which it is superposed, it is desirable that the top edge 18 of the spacer shall conform in direction, though not necessarily in width, with the portion 16 of the top edge 11 of said shingle. With a shingle of twenty-four inch width, the width of the edge portion 16 will be five inches, while the width of the spacer will be six inches. Consequently the spacer will extend towards one side somewhat beyond said shingle edge portion, as seen at the right hand side of Fig. 3 or the left hand side of Fig. 4.

In laying the shingles from left to right, as illustrated diagrammatically in Figs. 3 and 7, a starter course, formed of shingles split in halves, is laid and then the first course of shingles is applied with the left edge 24 of each shingle sidelapped on the preceding shingle, and fastened with nails 25 and storm anchors 26. Superposed on each shingle is a spacer member 17 secured by a nail 27. Referring to Fig. 7, which shows four contiguous shingles arranged in two courses, it will be seen that the top edge 18 of the spacer member aligns with the top edge portion 16 of shingle 10a and that its right end abuts the overlapping edge 24 of the second shingle 10b of the same course. When the next course is applied to headlap the first, the lower portion of the right end of shingle 10c will abut the left end of the spacer, and the lower edge portion 14 of shingle 10d will coincide with the bottom edge 19 of the spacer. This relationship of shingles and spacers prevails throughout in applying all of the succeeding courses. In Fig. 7, for sake of clarity of illustration, the shingles 10c and 10d are indicated by dot, and dot-and-dash lines, respectively.

Application from right to left, as indicated in Fig. 4, is effected in the same general manner, except that in this case each shingle 10 is reversed edgewise so that its serrated edge 11 becomes its bottom or butt edge, and each spacer member 17 is inverted facewise. That is, in applying from left to right the spacers are laid with their front or obverse surface upward, while in applying from right to left they are laid with their rear or reverse surface upward.

When the shingles are so applied, in either direction, they will break joint in halves throughout. In other words, the edges 24 of the shingles of any course will fall in line with the middle of

the exposed portions of the shingles of the courses immediately below and above. No covering of Dutch-Lap shingles has heretofore been proposed wherein they could break joint in halves.

The shingles may also be laid from left to right, as in Fig. 5, or from right to left, as in Fig. 6, without use of any spacer members in the manner customarily employed in applying conventional Dutch-Lap shingles. However, with the shingles of the present invention the roof covering has serrated or staggered butts throughout. In either case where the singles are applied without spacer members the joints formed by the sidelapping edges 24 are zigzagged or stepped throughout the several courses.

A modified form of the shingle is shown in Fig. 10 wherein the top and bottom edges 11 and 12 are each formed with a succession of recesses and projections 13', 14', 15', and 16', all of which have straight horizontal edge portions instead of some of them having slanting edges as in the form of shingle of Fig. 1. The spacer member 17 for use with this modified shingle has straight horizontal parallel top and bottom edges 18' and 19'. The manner of applying these shingles with or without spacer members, and laid either from left to right or right to left, is precisely the same as that heretofore described.

Various other modifications of the shingle may be made within the scope of the invention so long as the essential features of form and relationship of parts set forth herein, and pointed out in the claims are maintained. Specific dimensions herein given are by way of illustration only and may be varied.

By the term "serrated," as used to define the shape of the top and bottom edges of the shingles, is meant that they are formed of broken-lines made of a number of straight lines joined at their ends and not constituting a continuous straight line.

What I claim is:

1. A roof covering composed of reversible rigid shingles adapted to be applied in contiguous courses either from left to right or right to left, each shingle having top and bottom edges consisting of broken-lines forming a succession of projections and indentations which when the shingles are reversed edgewise and laid with either edge downward present butts having the same serrated appearance, each shingle of a course being sidelapped by an end portion of an adjoining shingle of the same course and headlapped by butt portions of shingles of the next upper course, the shingles being secured in such relationship by nails and storm anchors passing through preformed openings in the shingles.

2. A roof covering composed of reversible rigid shingles adapted to be applied in contiguous courses either from left to right or right to left, each shingle having top and bottom edges consisting of broken-lines forming a succession of projections and indentations which when the shingles are reversed edgewise and laid with either edge downward present butts having the same serrated appearance, each shingle of a course being sidelapped by an end portion of an adjoining shingle of the same course and headlapped by butt portions of shingles of the next upper course, the portions of the broken-lines forming the end sections of the top and bottom edges of the shingle being equal in width to the extent that the shingles are designed to headlap.

3. A roof covering composed of reversible rigid shingles adapted to be applied in contiguous courses either from left to right or right to left

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to break joint in halves, each shingle having top and bottom edges consisting of broken-lines forming a succession of projections and indentations which when the shingles are reversed edgewise and laid with either edge downward present butts having the same serrated appearance, each shingle having one end sidelapped by an end portion of an adjoining shingle of the same course and being overlapped by butt portions of shingles of the next upper course, a spacer member secured to the face of each shingle in position to be covered by a portion of the butt of an overlying shingle, said spacer member being reversed facewise depending upon the direction in which the shingles are applied, each spacer member having one end contacting an upper portion of the sidelapping edge of an adjoining shingle of a course and having its other end contacting a lower portion of an end of a shingle of the next upper course.

4. A roof covering as in claim 3 wherein each spacer member is quadrilateral in form and of a horizontal width determined by the following formula:  $x = \frac{1}{2}(a-b) - b$ , in which  $x$  is the horizontal width of the spacer member,  $a$  is the horizontal width of the shingle, and  $b$  is the horizontal width of the sidelap.

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5. A roof covering as in claim 3 wherein the shingles are reversed edgewise and the spacer members reversed facewise depending upon the direction in which the covering is applied.

6. A roof covering composed of reversible rigid shingles adapted to be applied in contiguous courses from left to right or right to left to break joint in halves, each shingle having top and bottom edges consisting of broken-lines forming a succession of projections and indentations which when the shingles are reversed edgewise and laid with either edge downward present butts having the same serrated appearance, each shingle having one end sidelapped by an end portion of an adjoining shingle of the same course and being overlapped by butt portions of shingles of the next upper course, a spacer member secured to each shingle, one section of the broken-line constituting the butt edge of each shingle when laid in either reversed position being the same in length and direction as the bottom edge of a spacer member, so that said section of an overlying shingle will cover the underlying spacer member and will coincide with the bottom edge thereof.

No references cited.