Oct. 13, 1936. A. E. F. MOONE 2,057,245

ROOFING

Filed April 2, 1932

Fig. 1

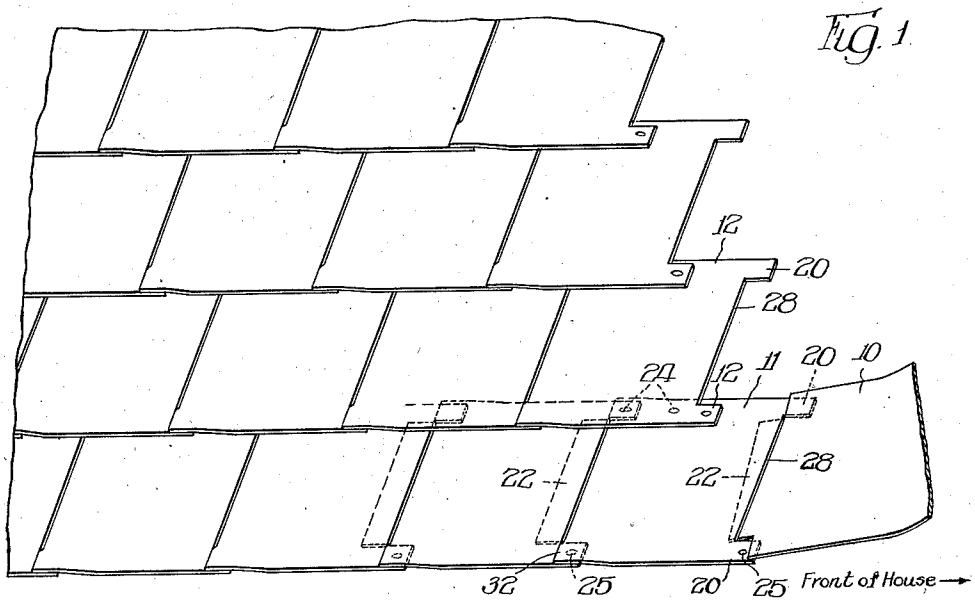



Fig. 2

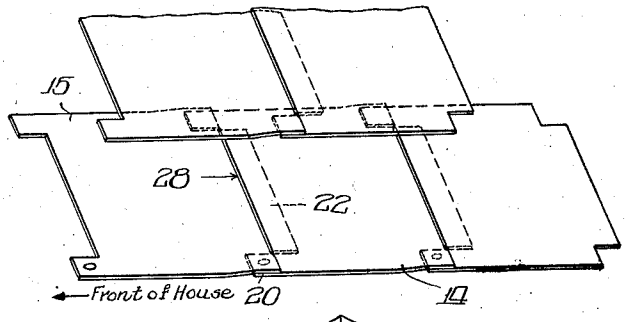



Fig. 4

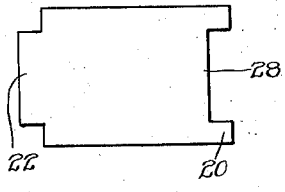
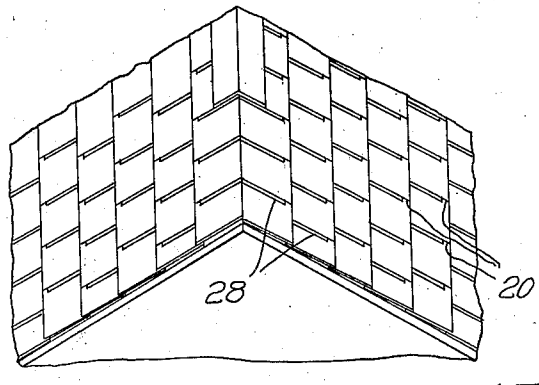



Fig. 3




Inventor:
Albert E. F. Moone,
By Wilkinson, Huxley, Byron & Knight
Attys



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Patented Oct. 13, 1936

2,057,245

# UNITED STATES PATENT OFFICE

2,057,245

## ROOFING

Albert E. F. Moone, Chicago, Ill., assignor to The Lehon Company, Chicago, Ill., a corporation of Illinois

Application April 2, 1932, Serial No. 602,644

2 Claims. (Cl. 108—7)

This invention relates to roofing, and more particularly to that type of roofing made up of interlocking shingles. Such shingles are usually prepared from felt saturated and coated with asphalt and surfaced with a mineral material.

Interlocking shingles of various types have been known for many years, but in spite of this fact one or more of various difficulties have always been encountered until solved by this invention. The difficulties have been of various major varieties. One of these lay in the complicated interlocking arrangements which resulted in wastage of material and in difficulty of laying, both of which increased the cost of such a roof. Another common difficulty was found in the fact that the interlocking features were such as rendered the roofing shingles easily torn so that frequently the interlocking tabs would be torn off, leaving the bottom of the shingle unsecured to the roof. A further difficulty related to the appearance of the finished roof. Interlocking shingles are usually arranged in a laterally overlapping style, with the result that when a person looks at a roof obliquely from either side only those edges exposed in his direction are clearly visible. The other joints are substantially invisible, and therefore give the smooth surface appearance of a cheap roof. According to former practice, the roofs were of necessity so laid that only part of the edges showed up properly from the street. The present invention overcomes these difficulties by providing an exceedingly simple interlocking structure which can be cut from continuous roofing without loss of material, which will be laid with extreme simplicity, and which is so interlocked as to minimize the tearing tendency, and in its preferred aspect which may be laid with substantially all of the exposed edges facing the street.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specification, drawing and claims appended hereto.

In the drawing, which illustrates an embodiment of the device, and wherein like reference characters are used to designate like parts,

Figure 1 is a fragmentary perspective view of a roof constructed according to this invention, and showing the details of the construction and the process of laying;

Figure 2 is a similar view illustrating the shingles of Figure 1 laid in the opposite direction;

Figure 3 is a top perspective fragmentary view of a roof made up in accordance with this invention; and

Figure 4 is a plan view of a single shingle.

In its preferred form my invention comprises the shingles 10, 11, and 12, each having at one end the edge tabs 20 and having at the opposite end the wide center tongue 22. These tabs and tongues preferably have substantially the proportion and relation shown, the tabs 20 being just wide enough to have the desired strength, and the tongue 22 forming the portion cut out from between the tabs 20 of another shingle.

In laying the shingles the roofer will begin at the bottom of the roof according to the usual custom. But with the preferred form of the invention he will always begin each row at the back end of the roof. Thus, as shown in Figure 1, the back of the house being toward the left, the roofer will lay the lefthand shingles first. When he has laid any one shingle, say the shingle 11, he secures it at its lefthand edge by interlocking with the adjacent shingle (or by nails if there is no such shingle), and secures it partly along the top by the nails 24. The next shingle, as shingle 10, may then be laid by shoving the wide center tongue 22 underneath the previously laid shingle 11 and putting the bottom edge tab 20 of the first laid shingle 11 under the shingle 10 being laid. Additional nails may be then used in positions similar to the positions of the nails 24 to secure the new shingle in place and further to secure the previous shingle 11. Of course, the only shingle which would ordinarily be secured directly by nails through its lefthand edge would be the extreme lefthand shingle. Each of the other shingles would be secured at its lefthand edge by the interlocking as described, and a nail at the top lefthand corner.

The next row of shingles would be laid in the same way, overlapping the first row any desired amount, but preferably just enough to cover the row of nails and the tops of the tongues 22.

When the shingles have been laid in this manner, all of the exposed vertical edges 28 will face in the same direction, which, in this instance, should be toward the right, or toward the front of the house. Thus it is evident that when viewed from the street these edges would be clearly visible and would lend depth to the shingles, so that the roof would appear as a normal shingle roof. The appearance of depth along these edges is increased by the fact that the exposed asphalt is usually much darker than the surfacing material.


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On the side of the roof facing in the opposite direction, the roofer would again begin at the back and work toward the front. That is, in this instance he would begin at the righthand end of a row and lay shingles toward the left, as shown in Figure 2. Thus when the shingle 14 had been laid, as previously described, the shingle 15 would be laid by inserting the center tab 22 of shingle 15 under the shingle 14 with the edge tabs 20 of shingle 14 under the shingle 15. When thus laid the exposed edges 28 face to the left, which in this instance is again toward the front of the house. Thus, it is evident that when both sides of the roof are laid from the back to the front, as described, both sides will present a perfect appearance to the observer on the street. It should be understood that the shingles illustrated in Figures 1 and 2 are of a rectilinear shape, such as shown in Figure 4, rather than the shape shown in Figure 5.

In the illustrated form the interlocking construction has the utmost durability, which is obtained by the combination of three important features. These three features are: the lack of weakening slots, the full strength and small area of unsecured corners, and the tying down of all weakened portions.

In interlocking shingles of the prior art slots were usually provided in each shingle for the reception of the adjoining shingle. For example, a slot might be provided at the upper corner of the tab 20 of the shingle 11 for receiving the shingle 10. Such slots not only greatly weakened the structure, but also considerably complicated the process of laying the shingles, often making it necessary to distort the shingle to such an extent that it was weakened by this distortion. In the shingles of this invention it is clear that there is no weakening distortion. In fact, there is not any distortion of the shingle in the plane of the shingle, but only a slight flexing or curving of each shingle as a whole when the adjoining shingle is placed under it.

As readily seen from Figure 1, there is only one unsecured corner on each shingle of the assembled roofing of this invention. On the shingle 11 this sole unsecured corner is the corner 32. By unsecured is of course meant exposed and not nailed or otherwise directly secured to the roof. In other words, one which could be bent back or could be curled up. This term unsecured is used merely for convenience, since the corner 32 is in fact secured, though not directly, by the tongue 22 and the nails 25. It should be noted, however, that although this corner is unsecured, it is of full strength, meaning that it does not depend upon any weakened portion of the shingle to maintain it in place. Also it is noted that the unsecured corner is of small area, so that there is little chance of its being affected by the wind or other disturbing elements.

On each of the shingles the only portions which can properly be considered as weakened, are the tabs 20, since the tongue 22 being of substantially the full width of a shingle has substantially the full strength of a shingle, and it is not subject to being torn off as are small tabs, such as the tabs 20. If the bottom tab 20 were projecting above the adjoining shingle and not nailed down, it would be quite easily torn off. For example, a person walking on the roof might quite easily catch his foot on such an exposed tab and without very much weight tear the tab entirely from the shingle. This would be especially true if the tab were weakened by interlocking slots. In the present invention, however, the tab 20 is not only covered up, but it is tightly secured to the roof, so that there is no chance of any such force being exerted upon it. Not only is the tab itself secured, but also the portions adjoining it are held down. In this connection it might be explained that the forces which are most likely to tear a shingle are those which have a twisting effect, that is, a force which would pull the part of the shingle out of the plane of the rest of the shingle just as a person tearing a heavy cardboard would naturally hold one part stationary and pull the other part away from it out of the plane of the original cardboard. Such a twist-tearing action is prevented in the assembled roofing of this invention, since there is no place where the twist can begin. Especially is this true in the zone of the weakened portion of the shingle. Thus, as already stated, the lower tab 20 itself cannot be raised for a twisting motion. Likewise the edge 28 being secured at its lower end by the tab 20 and at its upper end by the overlapping shingles above, cannot be raised for any twisting action; likewise, the bottom edge of the shingle is held down by the tongue 22 as well as the lower tab 20, so that it cannot be raised sufficiently for any twisting action. In short, the only part that can be raised at all is the corner 32, and as previously stated, this is not objectionable, since this is only a stub corner with full strength, and cannot be normally raised far enough to permit any effective tearing action.

It is to be understood that many other embodiments of the invention, including some in improved form, will be apparent, and in the course of time more will be devised by those skilled in the art. It is not desired that this invention be limited to the details described, for its scope includes all such forms or improvements as come within the spirit of the following claims, construed as broadly as the prior art will permit. For example, one specific change that could be made would be to form the upper tab on the forward shingle to extend back over the rear shingle from the rear edge of the wide tongue of the forward shingle.

What is claimed is:

1. A roof including: two parts sloping in opposite directions, and having both parts covered with identical interlocking shingles, each part being covered with horizontally extending rows overlapping one another, and each row including shingles each of which has one side edge principally exposed, the other side edge principally covered by another shingle, and its lower edge exposed, and each having a wide tongue under the exposed edge of the adjoining shingle in the same row, said tongue fitting between tabs on said adjoining shingle which extend under the shingle carrying said tongue; said tabs being symmetrical; and said tongue being the same shape at its top as at its bottom, whereby the shingle may be laid from left to right and when reversed may be laid equally well from right to left; the shingles on one slope of the roof being overlapped from left to right in each row and on the other side of the roof being overlapped from right to left in each row, whereby all of the shingles on the entire roof have their side edges which are principally exposed facing in the same general direction with respect to said roof as a whole.


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2. A roof including: two parts sloping in opposite directions and having both parts covered with identical interlocking shingles, each part being covered with horizontally extending rows overlapping one another, and each row including shingles, each of which has one side edge principally exposed, the other side edge principally covered by another shingle, and its lower edge exposed, each shingle also having a wide tongue under the exposed edge of the adjoining shingle in the same row and having spaced tabs provided by the body of the shingle for association with the tongue of the underneath shingle at least one of said tabs being nailed to said roof and said nailed tab extending under and being covered by the shingle having the tongue; said tabs being symmetrical, and said tongue being the same shape at its top as at its bottom, whereby the shingle may be laid from left to right and when reversed may be laid equally well from right to left; the shingles on one slope of the roof being overlapped from left to right in each row and on the other side of the roof being overlapped from right to left in each row whereby all of the shingles on the entire roof have their side edges which are principally exposed facing in the same general direction with respect to the roof as a whole.

ALBERT E. F. MOONE.


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