

Jan. 5, 1926.

1,568,227

F. P. LEONARD

ROOFING

Filed Jan. 25, 1923

2 Sheets-Sheet 1

Fig. 1.

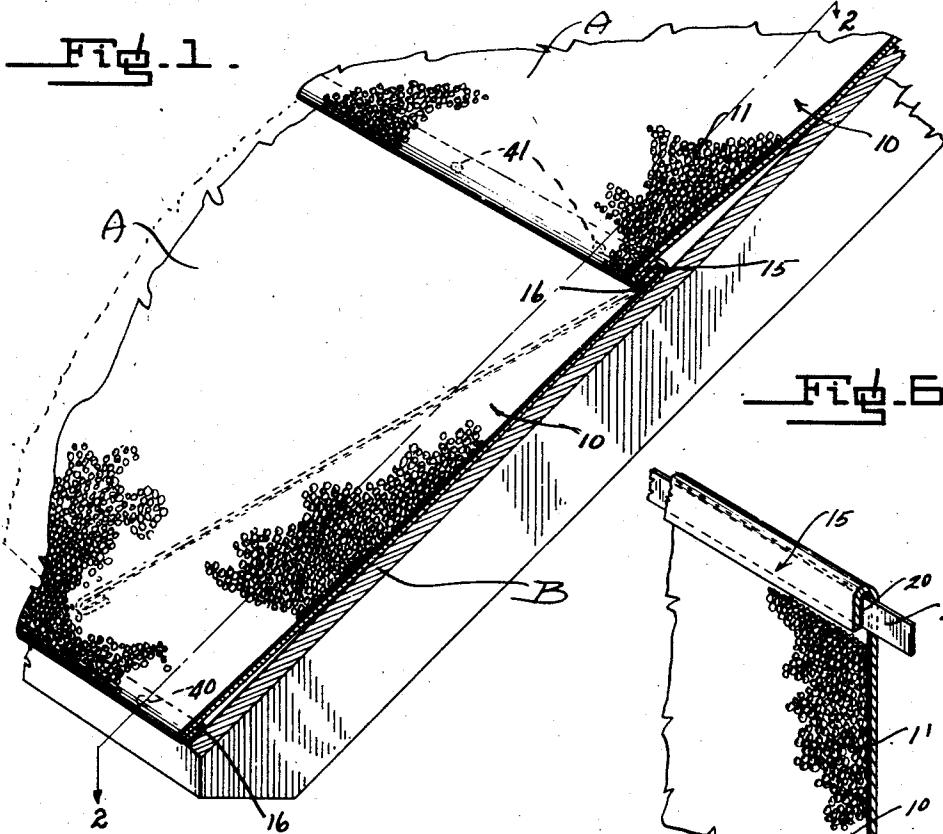


Fig. 6.

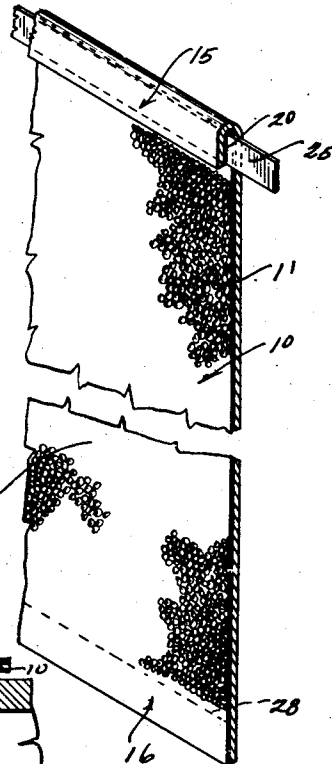
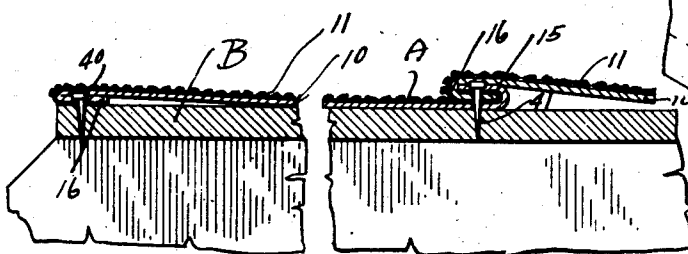


Fig. 2.



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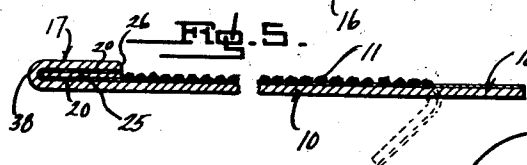
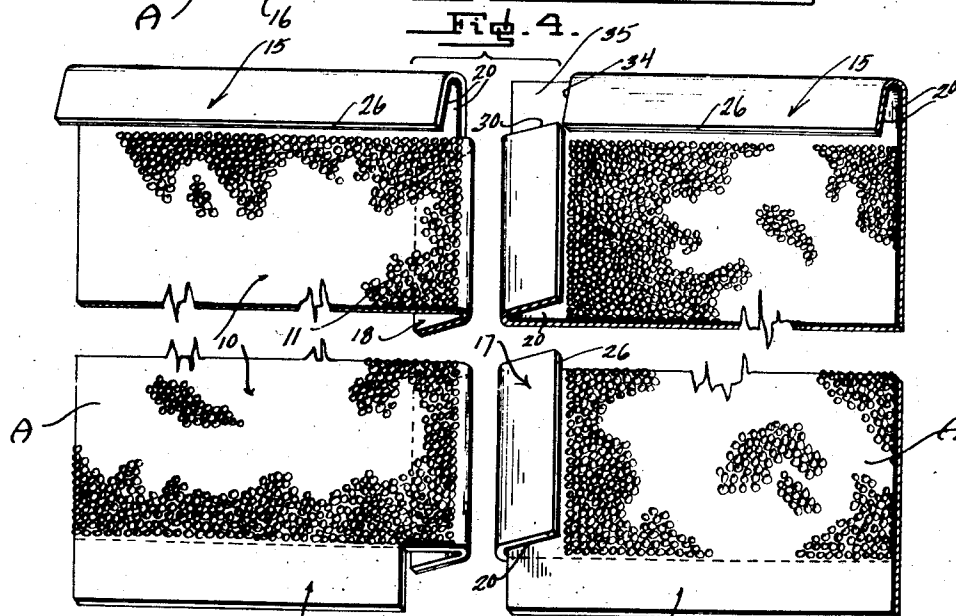
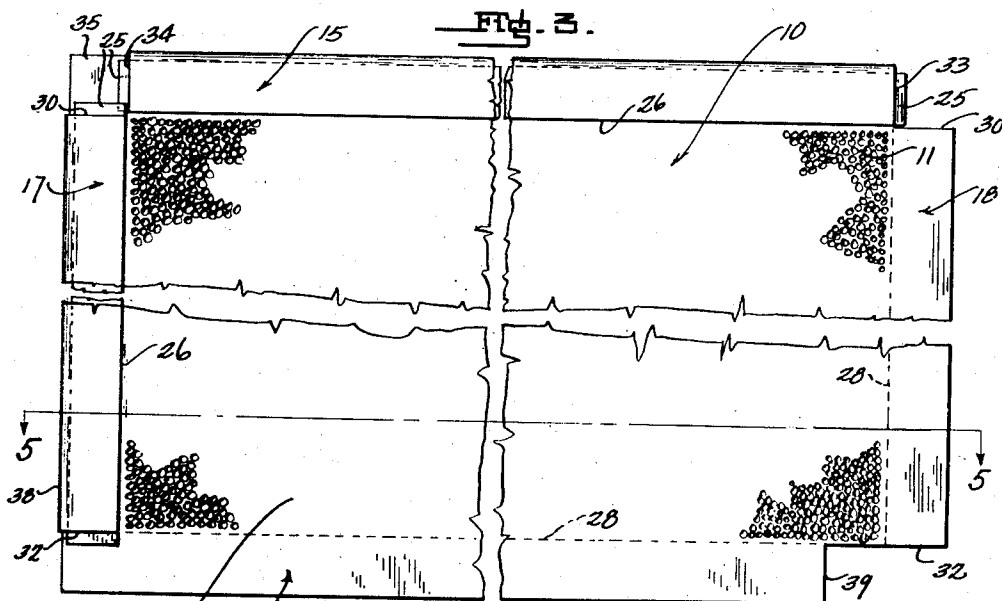
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

FRANK P. LEONARD, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO FREDERICK C. CLAESSENS, OF TROY, NEW YORK.

ROOFING.

Application filed January 25, 1923. Serial No. 614,899.

To all whom it may concern:

Be it known that I, FRANK P. LEONARD, a citizen of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Roofings, of which the following is a specification.

This invention relates to improvements in roofing.

The primary object of this invention is the provision of a novel type of roofing section, which may cooperate with adjacent sections of like nature in providing a waterproof roof, the connections of adjacent sections of which are of the most durable and waterproof arrangement.

A further object of this invention is the provision of a roofing section, which may be used in so far as structural features of the same are concerned, for shingle or roll roofing, embodying certain novel receiving and inserting flaps.

A further object of this invention is the provision of roofing material of the above described character, which may be manufactured so that workmen may readily lay the same, without the necessity of providing liners and markers; the interfitting connections of adjacent novel sections, being such as to make the laying of the roofing practically self aligning.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views.

Figure 1 is a fragmentary perspective view of a roof structure, showing the improved roofing material, as cooperatively used thereon.

Figure 2 is a cross sectional view, taken substantially on the line 2—2 of Figure 1.

Figure 3 is a fragmentary plan view of a section of the roofing material, showing the novel cooperating parts thereof.

Figure 4 is a fragmentary perspective view of novel cooperating details of adjacent roofing sections, showing certain cooperating receiving and inserting flaps thereof just prior to assemblage.

Figure 5 is a cross sectional view, taken substantially on the line 5—5 of Figure 3, showing the arrangement of a roofing sec-

tion, as the same is manufactured and the condition in which the same is delivered for a roofing operation.

Figure 6 is a fragmentary perspective view of cooperating parts of a roofing section.

In the drawings, wherein for the purpose of illustration is shown but the preferred embodiment of this invention, the letter A generally designates a section of the improved roofing material, which may be either of the roll or shingle type. This roofing may be of sheet paper, fabric, fiber, or analogous flexible base material, including a body portion 10, which may be rectangular in formation, and the top surface of which may be provided with any of the well known type of protecting coating, such as gravel, slate, or the like, affixed as by tarring to the upper surface of said body portion. The body portion 10 of the roofing section A preferably has marginal flaps at all edges thereof. This flap arrangement may consist of an upper receiving flap 15; lower inserting flap 16, oppositely positioned on a marginal edge with respect to the receiving flap 15; an end receiving flap 17; and an end inserting flap 18.

In case the novel roofing section A is used as roll roofing, the receiving flap 15 will be disposed at the upper longitudinal edge of the roll, while the inserting flap 16 is disposed at the lower longitudinal edge of the roll. The receiving end flap 17 is at the end of the roll, while the inserting flap 18 is at the starting end of the roll.

The receiving flaps 15 and 17 are of analogous construction, and are overturned upon the body portion 10, during manufacture of the section A. The facing surfaces of each of the receiving flaps 15 and 17 with the body portion 10 are provided with adhesive coatings 20, so that the socket provided by the receiving flaps and the body portion 10 are interiorly provided with adhesive material. To prevent the adhering of the facing coatings 20 of adhesive material, it is preferred that a temporary protecting strip 25 be provided for insertion in the sockets provided by the receiving flap, which maintain the facing adhesive surfaces of the flaps and body portion in separated relation. These separating strips 25 may be wax paper, or may be any analogous temporary protecting means, such as

a non-adhesive dusting material, which will prevent the adhesive surfaces 20 from adhering to each other, so that the same will easily separate to perform their proper function in receiving an inserting flap to provide a waterproof joint, as will be subsequently described. With this construction, it is to be noted that the permanent gravel or slate protecting coating 11 of the body portion 10 terminates at the free edges 26 of the receiving flaps 15 and 17.

The inserting flaps 16 and 18, which are respectively formed at the lower longitudinal edge and at the starting end of the body portion 10, are fabricated as to lie in the plane with the body portion 10, being contiguous therewith, and preferably having marking lines 28, upon which the same may be bent in underfolded relation upon the bottom of the body portion 10, for insertion into the sockets of the receiving flaps 15 and 17 of adjacent sections. The gravel coating 11 also terminates short of the inserting flaps 16 and 18.

None of the receiving or inserting flaps of the improved section A extend for the full length of the marginal edge of the body portion upon which they are positioned, but are arranged, as to their length, to most readily conform to the interfitting connection of the sections to provide an impervious roofing, which may be readily attached to a roof. Thus, the receiving flap 17 and the inserting flap 18, which are positioned at the ends of the roofing section A, are preferably of the same length, having their top edges 30 terminating inwardly of the free marginal edge 26 of the receiving flap 15. These edges 30 of the flaps 17 and 18 may be in alignment with the free edge 26 of the receiving flap 15, but may not be disposed beyond alignment of the edge 26 into the inserting flange extended. The lower end edges 32 of the receiving and inserting flaps 17 and 18 respectively, may terminate in alignment with the folding line 28 of the lower longitudinal inserting flap 16 of the section A, substantially as is illustrated in Figure 3 of the drawings. The upper or longitudinal receiving flap 15 has one end edge 33 thereof preferably in alignment with the folding line 28 of the end inserting flap 18. The opposite end edge 34 of the top receiving flap 15, preferably terminates in alignment or inwardly of the free marginal edge 26 of the end receiving flap 17, so that the receiving flap 15 does not extend into the line of the receiving flap 17. The body portion 10 of the improved section A provides an exposed corner 35 at the end edges 34 and 30 of the receiving flaps 15 and 17.

The lower inserting flap 16 preferably extends from adjacent the folding line 38 of the receiving flap 17 to an opposite end

edge 39, which is positioned in spaced relation with the fold line 28 of the inserting flap 18 for a distance substantially equivalent to the width of the inserting flap 18, and substantially as is illustrated in Figure 3 of the drawings. The corner of the body portion 10 adjacent the end edges 30 and 33 of the flaps 18 and 15 respectively is cut away or removed.

Referring to the laying of the roofing sections A, the operations are aptly illustrated in Figures 1, 2, and 4 of the drawings. Assuming that the sections A are in the form of roll roofing, the roll is extended along the roof, and a lower section A is attached to the roof B adjacent the eave thereof. The attachment of this lower section A is first accomplished by nailing the longitudinal inserting flap 16 to the roof B, as by the nails 40, and bending the longitudinal inserting flap 16 of the next upper section A is then inserted into the socket of the upper inserting flap 15 of the lower attaching section A, and the body portion 10 of the section being attached is disposed substantially in the position illustrated by dotted lines in Figure 1 of the drawings, while nail elements 41 secure the inserting flange 16 of the sections being attached in the receiving flap of the lowermost section A and to the roofing B. The body portion of the section being attached is then bent upon the roof B, and the laying of the sections A is continued throughout the roof. It will be noted that when the body portion of the sections are attached to the roof, all of the securing elements 40 and 41 will be hidden from view, and disposed in protected relation.

The temporary protecting paper or material 25, is of course, removed from the adhesive surfaces of the receiving flaps 17 and 15, so that when the inserting flap of an adjacent roof section is disposed within the socket of the receiving flap, the inserting flap will be engaged by the adhesive surface 20 upon both sides. When the roof is of such length as to require the laying of a plurality of sections, the receiving and inserting flanges 17 and 18 of the adjacent sections interconnect. The position and relation of the flaps of adjacent sections, is well illustrated in Figure 4, where the adjacent sections at the ends thereof are disposed for an assembling operation. It is easily understood from this view, that when the rolls or the adjacent sections are connected in extending relation, the longitudinal receiving and inserting flanges will be in unbroken alignment, to properly cooperate with the next lower and upper rows of sections A.

The receiving flaps 15 and 17 are folded, while the paper is in process of manufac-

ture, and while the same is pliable and hot, so that the same will not break, and will assume a permanent overlapping relation upon the body of the section. This is a convenient arrangement, not only from the standpoint of assemblage of the sections in self aligning relation, but because of the saving of time, labor, and expense in attaching the roofing, as it is readily understood that the output of the sections A on a production basis, will permit of their manufacture for a great deal less sum in their finished form than would be possible for a roofer to shape the same during a roof laying operation.

From the foregoing description of this invention, it is obvious that a roofing section has been provided, which may be attached, either in the shape of roll roofing or shingles, as to provide an economical and weather proof roof structure. Laying operations have been reduced to a minimum in the formation of the section as above described, as it is not necessary to apply any finishing coating or cementing material during such laying operation, and in addition dispenses with other ordinary laying operations as it is apparent, and has been hereinbefore mentioned.

Various changes in the shape, size, and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the claims.

I claim:

1. A roofing section comprising a body having a protecting and wear coating formed upon the top surface thereof, an inserting flap formed integral and along an edge of the said body, said protecting coating terminating short of the juncture line of the inserting flap and body, a receiving flap permanently overlapping the body at

an edge thereof opposite to said inserting flap to provide a socket, said protecting coating of the body terminating short of the said socket, the facing surfaces between said receiving flap and body having adhesive coatings thereon, and temporary spacing means between said adhesive coatings.

2. In a roofing section the combination of a substantially rectangular shaped body portion having substantially parallel end edges and substantially parallel upper and lower edges, and having inserting flaps integral with the body at the lower edge and at one end edge of said body and disposed in the same plane with said body, permanently overlapped receiving flaps integral with said body at the upper edge of the body and at the other end edge of the body to provide sockets, said inserting flap at one end edge of the body extending in length from the lower edge of the body to the overhanging free edge of the receiving flap at the upper edge of the body, said inserting flap at the lower edge of the body extending in length from the end edge of the body adjacent the end receiving flap and terminating at its opposite end short from the opposite end edge of the body for a distance equal to substantially the width of a receiving flap, said overlapped receiving flap at the upper edge of said body extending from the end edge of the body adjacent the inserting flap and at its opposite end terminating short of the opposite end edge of the body a distance equal to substantially the width of the end overlapped receiving flap, said receiving flap at the end of said body extending from the lower edge of the body for a length less than the width of said body and at its opposite end terminating short of the upper edge of the body a distance substantially equal to the width of a flap.

FRANK P. LEONARD.