N. P. HARSHBERGER.

DEVICE FOR FACILITATING SHINGLE LAYING.

APPLICATION FILED FEB. 25, 1915.

1,210,469. Patented Jan. 2, 1917.

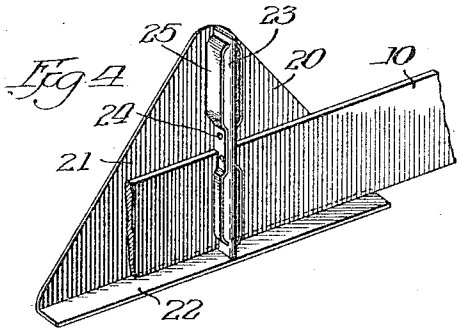


Fig 4

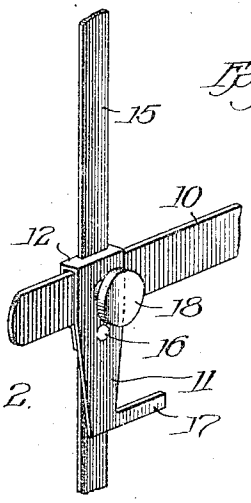


Fig 2.

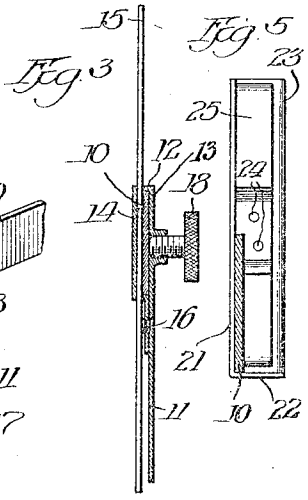
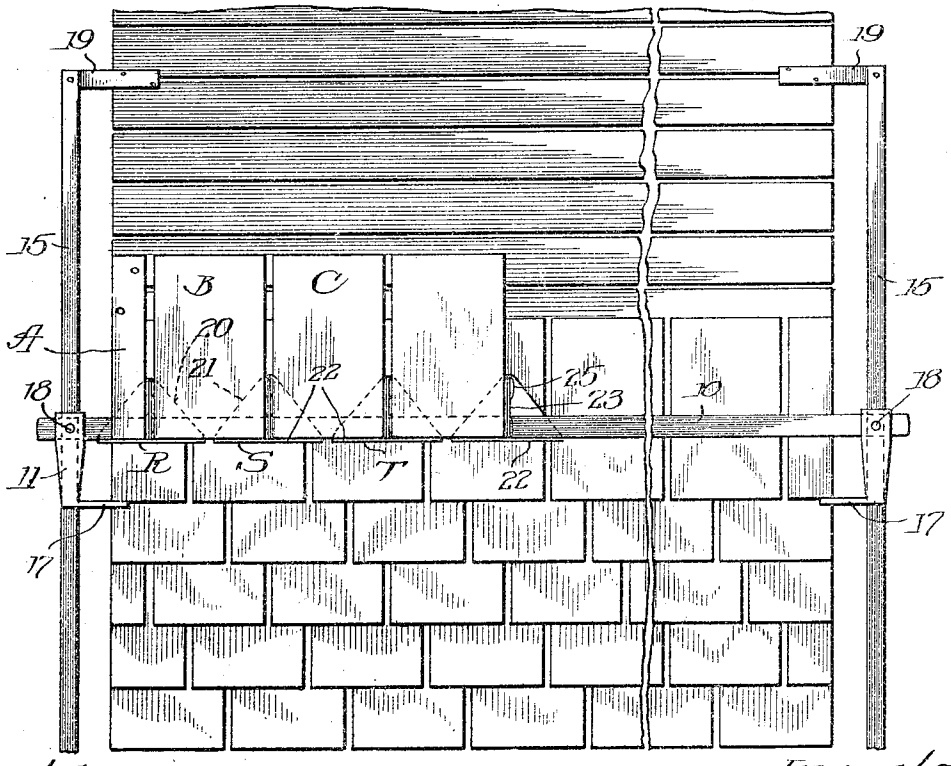


Fig 3

Fig 5

Fig 1



Witnesses:

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UNITED STATES PATENT OFFICE.

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DEVICE FOR FACILITATING SHINGLE-LAYING.

1,210,469. Specification of Letters Patent. Patented Jan. 2, 1917.

Application filed February 25, 1915. Serial No. 10,399.

To all whom it may concern:

Be it known that I, NORMAN P. HARSHBERGER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Facilitating Shingle-Laying, of which the following is a specification.

My invention pertains to devices for assisting or aiding in the laying of shingles, slate, tiles, and other roof coverings, whereby they may with ease and despatch be applied to the roof, properly registered or alined, and spaced apart to present the most attractive appearance.

Devices have heretofore been proposed for securing the alinement of shingles with equal exposure for all rows, but, so far as I am aware, no one has provided a structure for obtaining these results and also the spacing apart of the shingles in the same row and different rows equal amounts regardless of variations and irregularities in their dimensions.

It is with this and other objects in view that the present invention was evolved, structures embodying the same being applicable for employment with roof-covering elements or units, such as shingles, regardless of whether the same are made of natural materials, as wood or slate, or whether they are a manufactured product, such as asphalt shingles.

In order that those skilled in this art may have a full understanding of the invention, I have illustrated a desirable and preferred embodiment of the same in the accompanying drawing forming a part of this specification, and throughout the various views of which like reference characters refer to the same parts.

In this drawing, Figure 1 is a face view of a roof, illustrating the use of the improved and novel structure in the application of shingles thereto; Fig. 2 shows in perspective the adjustable attachment of the alinement or gage bar to one of the supporting end bars or straps; Fig. 3 illustrates the same elements in section; Fig. 4 is a perspective view of one of the gage pieces or shingle-spacing members slidingly mounted on a longitudinal alinement bar; and Fig. 5 is an edge view of the same parts.

This embodiment of the invention comprises an alinement or gage bar 10 equipped near each end with a clamp 11, preferably made of sheet-metal bent to shape and slidingly mounted on the bar. Each of such clamps is bent upon itself at 12 to provide front and back walls 13 and 14 separated a distance substantially equaling the combined thickness of the gage bar 10 and the end-supporting bar or strap 15 which it accommodates. Below bar 10, the rear wall 14 is bent forwardly into contact with the back face of the front wall, the two parts being desirably fastened together, as by a rivet 16 (Fig. 3). At its lower end the clamp is equipped with a laterally projecting gage or index finger or lug 17, for a purpose hereinafter indicated. As is illustrated, the bent portions of the clamp are apertured for the accommodation of bar or strap 15, which is received in the clamp back of bar 10, as shown, such construction, as will be readily understood, permitting the clamp to be slidingly adjusted on either bar. To prevent displacement of the clamp from its adjusted position,—that is to say, to temporarily lock the two overlying bars together—I provide the front wall 13 of the clamp with an apertured, internally-threaded boss receiving a set screw 18 with a knurled head to permit its ready manipulation, by which means the three parts, the two bars and the clamp, may be fastened together.

The two end-supporting bars 15, 15, are secured to the roof at their upper ends in any approved manner, as by the arms 19, 19, which may form side extensions of the bars, or may be separate pieces fastened to the roof in any suitable way. These companion bars are maintained in parallel relation and at right angles to the longitudinal alinement bar 10 by reason of the ninety-degree relation to one another of the clamp apertures through which the crossing bars extend. As is shown in Fig. 1, the gage or index fingers 17, 17 of the companion clamps project in opposite directions, that is, toward one another.

The alinement bar 10 has slidingly mounted thereon a plurality of members 20, which position the shingles in alinement and also space them apart equal amounts. Each member 20, conveniently made of shaped sheet-metal, has a triangular wall 21 equipped along its lower straight edge with a forwardly-extending marginal flange 22.

It also has a central, forwardly-projecting rib 23 disposed at right angles to flange 22 and apertured just in front of wall 21 and just above flange 22 to snugly but slidingly receive bar 10. The coaction of flange 22 with the lower edge of the bar insures that the flange will be parallel to the bar, and the rib at right angles thereto.

Rivets 24 fasten the middle portions of a pair of bent springs 25, 25 against the opposite sides of rib 23, the remaining parts of the springs being parallel and spaced away from the faces of the rib. These springs are, of course, cut away so as not to interfere with bar 10, and the distance between their outer faces represents the distance apart that adjacent shingles are to be separated.

The operation of the appliance is substantially as follows: Assuming that several rows of shingles have been laid and fastened to the roof, as shown in Fig. 1, and that the workman is about to lay the next row or series, he loosens the set screws 18, 18 of the two clamps and pushes up the bar 10, the group of spacing members 20 which it carries, and the clamps on the bars 15, 15, until the gage or guide fingers 17, 17 engage or are in register with the lower edges of the last laid row of shingles. Then he tightens the set screws, thereby clamping the three bars together in right-angle relation, it being understood that the distance between the flanges 22 of the members 20 and the fingers 17 represents the amount of exposure of the shingles to the weather. Then he places a shingle on the left-hand member 20 (characterized R in Fig. 1), with its lower edge resting on the flange 22, and with another of its edges engaging the spring gage 25, and slides the two to the left until the free edge of the shingle registers with the edge of the roof. Such shingle (characterized A in Fig. 1) is then nailed in place. The next shingle B is placed on the flanges of member R and the next member S, with its edge against the other spring 25 of member R, whereupon member S is slid over to the left until its gage spring 25 strikes the edge of the shingle. Now the third shingle C is laid on the flanges of member S and the next member T, with its left-hand edge against spring 25 of member S. Then member T is moved over to the left until its spring 25 strikes the other edge of the shingle. In this way the row of shingles is positioned, and they are nailed in place after the whole row has been laid out, or the workman may nail them down in succession as he proceeds with the positioning. After the row has been secured to the roof, the workman loosens the set screws and moves the alinement bar 10 and its associated parts downwardly to free them from the shingles, the yield or elasticity of the springs 25 facilitating this action and reducing the binding effect between the shingles. He now moves the bar 10 and its members 20 up and over the last row of shingles until the fingers 17 strike or are in register with its lower edge, whereupon he is ready to proceed as explained above. It is of course to be understood that all rows of shingles are laid in this way, the workman starting at the lower edge of the roof and working upwardly, as in the ordinary method of shingle application.

Obviously, the invention is not limited and restricted to the precise and exact details of construction illustrated and described, because it is susceptible of a variety of embodiments, and many minor mechanical changes may be made in such preferred incorporation of the invention without departure from the substance or essence of the invention and without the sacrifice of any of its substantial benefits and advantages.

I claim:

1. In a structure of the character described, the combination of an alinement bar, and a gage member slidable thereon, having a portion acting as a gage for the lower edge of a shingle and a portion adapted to be received between and space apart adjacent shingles.

2. In a structure of the character described, the combination of an alinement or gage bar, and a gage member slidable thereon and having a portion acting as a gage for the lower edge of a shingle, and a yielding means adapted to be received between and space apart adjacent shingles.

3. In a structure of the character described, the combination of an alinement bar, supporting bars, means adjustably securing said bars together, and gage members slidable on said alinement bar and provided with means for alining shingles or the like and spacing them apart.

4. In a structure of the character described, the combination of an alinement bar, and a gage member having an apertured rib receiving said bar, and also having a flange coacting with the bar to prevent displacement of the parts and acting as an alining support for a shingle.

5. In a structure of the character described, the combination of an alinement bar, and a gage member slidable thereon and having an apertured rib receiving the bar, said gage member also having a flange coacting with the bar to prevent displacement of the parts and acting as an alining support for a shingle, said rib also having one or more springs adapted to fit between adjacent shingles to space them apart.

6. In a device of the character described, the combination of a bar, a gage member slidable thereon and having an apertured rib receiving said bar, and one or more spacing springs fastened to said rib, said member

having a lower marginal flange adapted to position the lower edge of a shingle and cooperating with said bar to prevent angular displacement of the bar and member, the rib and its spring or springs being adapted to engage the edges of adjacent shingles and space them apart a predetermined distance.

7. In a device of the character described, the combination of an alinement bar, supporting bars, means adjustably fastening said alinement bar to said supporting bars, a plurality of gage members slidable on said alinement bar, each having an apertured rib receiving said bar, and one or more spacing springs fastened to said rib, each of said members having also a lower marginal flange adapted to position the lower edge of a shingle and coöperating with said bar to prevent angular displacement of the bar and member, the rib and its spring or springs being adapted to engage the edges of adjacent shingles and space them apart a predetermined amount.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."