

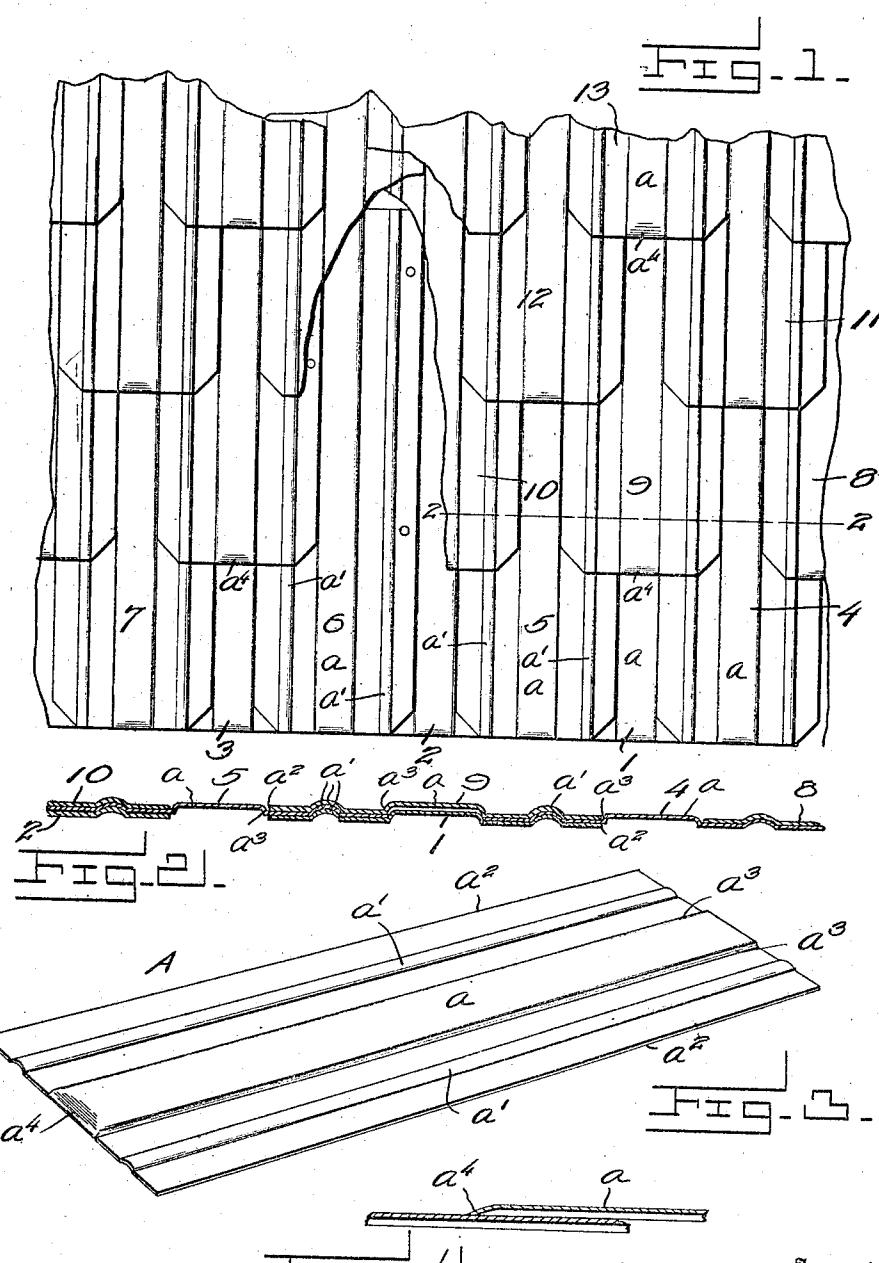
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SHINGLE.

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1,059,682.

Patented Apr. 22, 1913.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## SHINGLE.

1,059,682.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed October 23, 1912. Serial No. 727,375.

To all whom it may concern:

Be it known that I, THOMAS DENTON MILLER, citizen of the United States, residing at Catonsville, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Shingles, of which the following is a specification.

This invention comprises improvements 10 in shingles, so formed as to inter-lock with one another, and also to expose more area to the weather than the ordinary shingle, without danger of leakage.

One purpose of my invention is to utilize 15 the bodies of sheet metal cans which have been used to contain food stuffs and have been thrown away. I have found that by de-heading the cans in a suitable machine, such as that illustrated in the patent to 20 Logan, No. 823,422, dated June 12, 1906, and then removing the seams from the can bodies and passing the latter through straightening and grooving rolls, the bodies of certain sized cans make shingles of suitable dimensions, and, when properly water-proofed and protected from the weather, 25 such shingles will last indefinitely and may be made cheap enough to compete with shingles from other materials. While I con- 30 template using refuse sheet metal for this purpose, of course, the shingles can be made from new sheet metal, although at greater cost, and they may also be made of material other than metal.

In the accompanying drawing, Figure 1 35 is a plan view of a number of shingles showing the manner in which they are assembled when applied to a roof; Fig. 2 is a section on the line 2—2 of Fig. 1, on an enlarged 40 scale; Fig. 3 is a top perspective view of one of the shingles; and, Fig. 4 is a section taken centrally through portions of two super- 45 posed shingles, showing the bend at the lower end of the central rib of one of the shingles.

Referring first to Fig. 3 of the drawing, A' indicates a shingle composed of a rectangular strip of sheet metal which is preferably coated with a suitable water-proofing 50 compound and treated so that the surface of the metal will not be exposed to the weather. This strip of metal, either before or after the weather-proof coating is applied, is passed through rollers which form 55 a wide central convex rib *a* and two narrower convex ribs *a'* upon one side of the

strip, and corresponding grooves on the opposite side. The side having the convex ribs is the upper side of the shingle when the shingle is placed upon a roof. The ribs *a* and *a'* are straight and parallel with one another and with the lateral edges *a<sup>2</sup>* of the strip. The ribs *a'* are equidistant from the edges *a<sup>2</sup>*, and preferably the ribs *a'* are midway between the edges *a<sup>2</sup>* and the sides *a<sup>3</sup>* of the wide central rib *a*. After the ribs have been formed in the shingle, one end of the central rib *a* is given a slight downward bend, about equal to the thickness of the strip, as indicated at *a<sup>4</sup>*. When the shingles are assembled, the downward bent portions *a<sup>4</sup>* are at the lower ends of the shingles and engage the central ribs of shingles below them, as shown in Fig. 1.

In applying the shingles to a roof, the 75 shingles in the first row, some of which are indicated by the numerals 1, 2, 3, in Fig. 1, are spaced apart from one another a distance approximately equal to the width of one of the central ribs *a*, and another layer 80 of shingles, indicated by the numerals 4, 5, 6, and 7, is laid upon the first layer, each of the shingles in the row or layer 4—5—6—7, resting upon adjacent parts of two shingles in the row 1—2—3, between the 85 ribs *a* of the latter shingles, and the ribs *a'* of each shingle in the row 4—5—6 interlock with ribs *a'* of the two shingles below it. In the third row of shingles, indicated at 8—9—10, each shingle lies between the 90 central ribs *a* of two adjoining shingles in the second layer 4—5—6, the ribs *a'* of each shingle in the row 8—9—10 interlocking with ribs *a'* of two shingles in the row 4—5—6. Similarly, the shingles in the next 95 row, two of which are indicated at 11, 12, lie between the central ribs of adjacent shingles in the row 8—9—10.

With the ordinary wooden shingle, the shingles in each row are placed side by side 100 and close together so that rain driven by the wind cross-wise of the roof will not be driven under the lateral edges of the shingles. With shingles of my invention, however, when assembled upon a 105 roof, the shingles in each row are separated from one another by a distance at least equal to the width of the central rib of a shingle, and as the lateral edges of the shingles in each row extend close to the 110 raised ribs *a* of the shingles in the row beneath, the water driven by the wind across

the roof cannot readily pass under the lateral edges of the shingles. If any water does pass under the lateral edges of a shingle, it will engage the rib  $a'$  on the shingle below and will be prevented by this rib from passing under the upper shingle and will flow down on the lower shingle between the rib  $a$  and the rib  $a'$ . It will also be noted that a saving in material is effected, over 10 the ordinary way of shingling with flat shingles, by spacing the shingles in each row apart, the central rib of each row filling the gap between adjacent shingles in the row above it, and thus each shingle has more 15 area exposed to the weather than is the case with the ordinary shingle, this additional surface being the portions of the ribs  $a$  on each layer which are exposed between the shingles of the superposed layers. As the 20 central ribs in the shingles of alternate layers are in line with one another but separated by a distance equal to the thickness of the shingles in the intermediate layers, it is desirable to turn down the lower end  $a'$  of 25 the rib  $a$  of each shingle so that when the shingle is in position, the lower end of its rib  $a$  will meet the corresponding rib of the shingle in the second layer below, so that water cannot be driven up under the shingles 30 by the wind. Thus, the rib  $a$  of the shingle 13 extends over the corresponding rib of the shingle 9, and the end  $a'$  on the shingle 13 is bent downward a distance equal to the thickness of one of the shingles 11-12, to 35 meet the rib  $a$  on the shingle 9.

What I claim is:

1. A shingle comprising a rectangular strip of material of suitable size having a wide central longitudinal rib and two narrower longitudinal embossed ribs, and corresponding grooves, said ribs being parallel with one another, the narrower ribs being substantially equidistant from the lateral edges of the shingle and substantially equidistant from the central rib. 40

2. A shingle comprising a strip of material of suitable size having a wide central

longitudinal rib and two narrower embossed longitudinal ribs, and corresponding grooves, the latter ribs being midway between the 50 central rib and the lateral edges of the shingle.

3. A shingle comprising a strip of material of suitable size having a wide central longitudinal rib and two narrower embossed 55 longitudinal ribs, and corresponding grooves, the latter ribs being substantially equidistant from the lateral edges of the shingle and substantially equidistant from the central rib and one end of said central rib being bent downwardly.

4. A covering for buildings comprising a plurality of transverse rows of overlapping shingles, each rectangular in form, each shingle having two embossed ribs and corresponding grooves near to and parallel with its lateral edges and each shingle having also two ridges or shoulders spaced apart from one another and from said ribs, and parallel with said ribs, one shoulder between each 70 rib and the longitudinal center line of the shingle, each shingle of an upper row overlapping the sides of two adjacent shingles of the next lower row, and having its grooves engaging a rib on each of said adjacent 75 shingles and its lateral edges fitting close to the adjacent shoulders or ridges on adjacent shingles.

5. A covering for buildings comprising a plurality of transverse overlapping rows of 80 rectangular shingles, each shingle having a wide central longitudinal rib extending parallel with its lateral edges, each shingle of an upper row overlapping the sides of two adjacent shingles of the next lower row 85 and extending in close proximity to the central ribs of said two adjacent shingles.

In testimony whereof I have affixed my signature, in presence of two witnesses.

THOMAS DENTON MILLER.

Witnesses:

JOHN A. HENKUS,  
CHAS. E. TURNER.