Oct. 9, 1928. 1,686,513

W. H. CADY

ROOF PACKAGE AND BINDER THEREFOR

Filed April 6, 1922

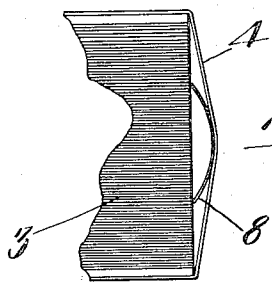


Fig. 2.

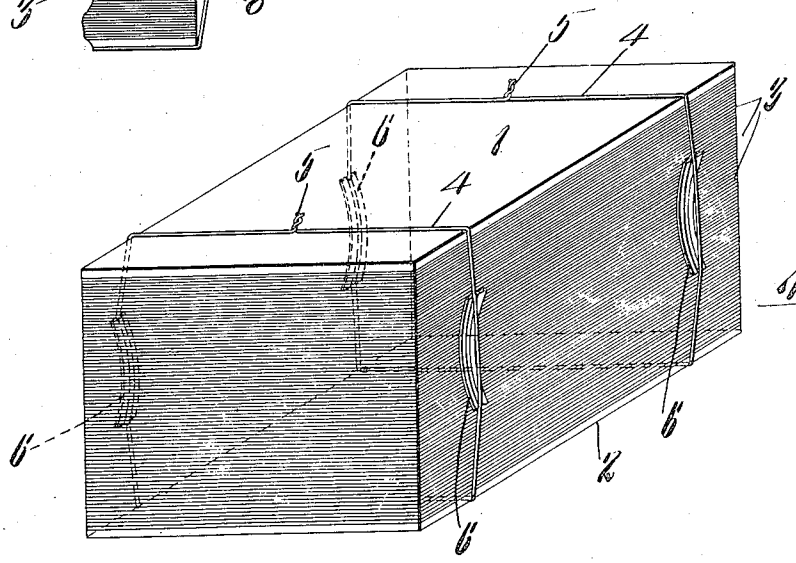


Fig. 1.

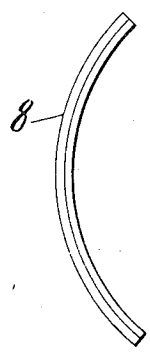


Fig. 3.



Fig. 4.



Fig. 6.

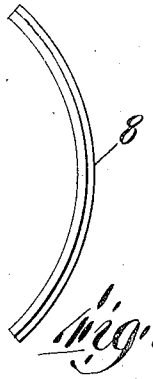


Fig. 5.

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UNITED STATES PATENT OFFICE.

WALTER H. CADY, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO THE FLINTKOTE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

ROOF PACKAGE AND BINDER THEREFOR.

Application filed April 6, 1922. Serial No. 550,162.

One form of roof now commonly used is made by treating rag felt with asphaltic or similar material with or without the application of a surface coating of ground slate, stone, or other granular or powdered material. The treating material is heated and the felt is fed thereto continuously, being unwound from the rolls into which it is formed by and delivered from the paper machine by which the felt is made. After it is treated it is cut into shape, either as individual shingles or as strips formed to represent a series of adjacent shingles of a single course, or in other shapes as desired. These shingles or strips are then piled in superposed relation in bundles or packages, each bundle having a definite number of shingles or strips, which are bound together by tie bands, these being usually thin boards or strips of wood placed against the outer faces of the outer shingles or strips to protect them from injury during handling and to prevent them from curling. These packages are then piled up in storage awaiting shipment.

Due to the rapidity of manufacture, the shingles or strips are still somewhat warm and plastic when the packaging has been completed, and it has been found that, due to subsequent cooling, and also to the superposed weight of the packages in the storage stacks, there is some shrinkage in the individual packages, so that the tie bands may become too loose to properly secure them for subsequent handling. According to the present invention elements are interposed between the packaged material and the binders to maintain the binders tight, although the material may shrink, these elements expanding automatically with the shrinkage of the bundles in order to maintain the binders taut.

For a more complete understanding of this invention reference may be had to the accompanying drawings in which

Figure 1 is a perspective of a package of roofing bound together according to this invention.

Figure 2 is a fragmentary elevation showing a different method of using a binder-tightening element.

Figures 3 and 4 are edge and side elevations, respectively, of a form of tightening element particularly adapted for flat tie members.

Figures 5 and 6 are similar views showing an element particularly designed for binders round in cross section.

Referring to Figure 1, at 1 and 2 are shown thin boards or strips between which are placed superposed sheets of the shingles or roofing strips. At 4 are shown tie members or binders of any suitable description which are passed about the package entirely surrounding it and bear against the outwardly turned faces of the boards 1 and 2. These tie members may, if desired, be formed of strand material as wire, the ends of which may be twisted together as shown at 5 in order to secure them about the package. In order to maintain these ties taut, even though the material of the package may shrink, spring elements as shown at 6 may be inserted between them and the material of the package, these elements being so formed as to press outwardly on the ties or bands to constantly impart tension thereto. These spring elements may be of various forms, two forms being shown in Figures 3, 4 and 5, 6, more particularly adapted to receive flat and round tie members, respectively. For this purpose these elements may be formed with longitudinal indentations or trough portions as shown at 7 conforming in general contour to the cross section of the tie. These elements are preferably bent or bowed endwise as shown and may be placed between the ties and the package material either side out, in Figure 1 the convex face 8 being shown as positioned against the packaged material and the ends bearing against the tie, while in Figure 2 the ends of the elements are shown bearing against the package material and the convex portion 8 engaged by the tie. When the ties are placed in position about the roofing material and the spring elements, tension is exerted thereon tending to flatten the spring elements. As the package contracts thereafter, tending to loosen the ties, these elements, tending to regain their normally more curved form, push outwardly on the ties and take up the slack otherwise caused by the shrinkage of the package and maintain the ties under tension. Each tie or binder member thus constitutes a loop of determined peripheral length, the spring elements tending to distort the loop in a manner to press the sheets of the package together.

While a single spring element might be employed for each tie, if desired, it is preferable to use more than one in order to apply uniform tension to the ties and to prevent unequal pressure being exerted on opposite sides of the packaged material. As shown two are employed for each tie, being positioned at the sides of the package between the boards 1 and 2. They might, however, bear against the faces of the boards 1 and 2, if desired, though it is deemed preferable to employ them in the positions shown.

Having thus described certain embodiments of this invention, it should be evident to those skilled in the art that many changes and modifications might be made therein without departing from its spirit or scope as defined by the appended claims.

I claim:

1. A package comprising superposed sheets of asphaltic roofing material, subject to shrinkage, binders passed entirely around said package, and means for continually maintaining said binders under tension whereby to accommodate the same to variations in the peripheral dimensions of the package.

2. A package comprising asphaltic roofing material subject to shrinkage, a binding member for holding said material in package form, and a member interposed between said binding member and material, acting to maintain said binding member taut about the material.

3. A package comprising asphaltic roofing material subject to shrinkage, binding members passed around said material, and means interposed between said material and members acting to maintain said members taut.

4. A package comprising a plurality of asphaltic roofing elements, subject to shrinkage, a binding member passed around the package to hold said elements assembled, and resilient elements interposed between said roofing elements and member and acting to maintain said member taut about said roofing elements.

5. A package comprising a plurality of elements, a binding member for holding said elements assembled, and a curved leaf spring recessed to receive said member interposed between said elements and member and acting to maintain said member taut about said elements.

6. A package comprising superposed strips of roofing material, a pair of binder boards between which said strips are positioned, tie wires passed about said package to hold it assembled, and curved spring elements interposed between said tie wires and said material acting to maintain said tie wires taut.

7. A package comprising superposed strips of roofing material, a pair of binder boards between which said strips are positioned, tie wires passed about said package to hold it assembled, and curved spring elements interposed between said tie wires and packaged material and each bearing on said packaged material and a tie wire at its ends and central portion to maintain said tie wires taut.

8. A package tie comprising a binder member, and a curved leaf spring shaped to partially encompass said member at points of contact, said spring being adapted to be interposed between the package material and said member and acting to maintain said member taut.

9. A package tie comprising a binder member and a leaf spring formed with a channel to receive said member and longitudinally curved to bear against said sheet material and member at opposite ends and its central portion to maintain said member taut.

10. A package comprising superposed sheets of asphaltic roofing material, subject to shrinkage, binders passed about said sheets, and means interposed between said binders and material at the edges of the sheets and acting to hold said binders taut about said sheets.

11. A package comprising superposed sheets of asphaltic roofing material, subject to shrinkage; binders passed about said sheets, each binder constituting a loop of determined peripheral length; and means interposed between said material and binders tending to distort said loop in a manner to press said sheets together.

In testimony whereof I have affixed my signature.

WALTER H. CADY.