F. E. GROSVOLD.

ROOF FLASHING.

APPLICATION FILED FEB. 11, 1919.

1,317,574. Patented Sept. 30, 1919.

Fig. 1,

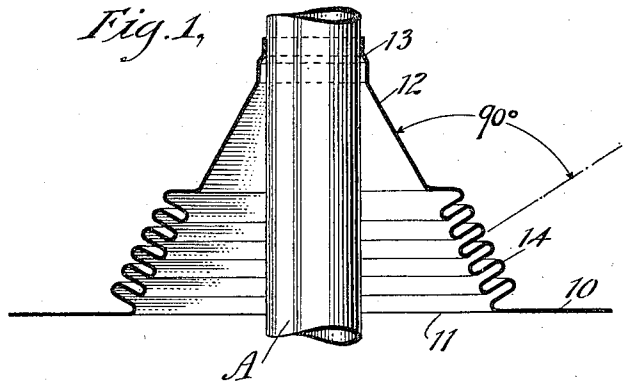


Fig. 2,

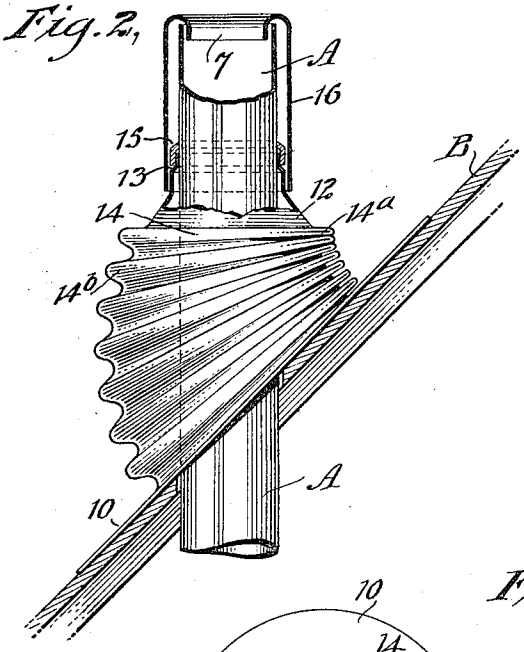


Fig. 3,

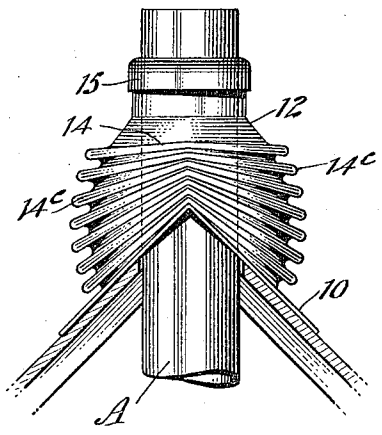


Fig. 4,

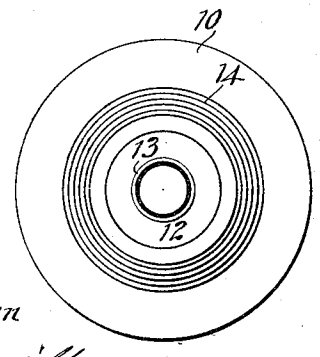
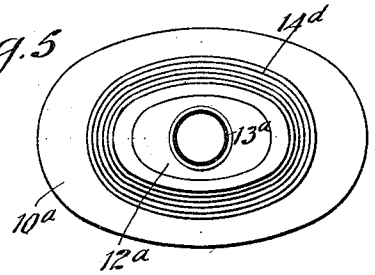


Fig. 5



WITNESSES

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ROOF-FLASHING.

1,317,574. Specification of Letters Patent. Patented Sept. 30, 1919.

Application filed February 11, 1919, Serial No. 276,262.

To all whom it may concern:

Be it known that I, FRED E. GROSVOLD, a citizen of the United States, and a resident of Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented a new and Improved Roof-Flashing, of which the following is a description.

My invention relates to roof flashings and more particularly to a roof flashing so formed that it may be adjusted to vary the angular relation between the tubular body of the flashing and the plane of the base, whereby to accord with the slope or angle of the particular roof to which the flashing is applied.

The present invention is intended more particularly as an improvement on the flashing forming the subject matter of an application filed by me August 3rd, 1918, Serial No. 248,195. The present invention in common with that of the first application, includes a corrugated tubular body rising from the base and flaring toward the base. The mere provision of corrugations will not afford the capability of adjustment. Corrugations having their peripheries forming part of the same cylindrical surface would necessitate a stretching of the metal to conform the flashing to the pitch of the roof and at the same time to present interiorly the necessary clearance to accommodate the pipe, and since the metal will resist stretching, the corrugations would simply buckle or break. By providing a conical or like downwardly flaring corrugated flashing the corrugations may be deformed to give the flashing a base line oblique to the axis without the metal being stretched or the corrugations being buckled or ruptured since the corrugations in the flaring form, owing to the increasing diameter of the corrugations toward the base, permit of the base being disposed at a considerable angle to the axis of the flashing and while preserving the necessary clearance within to receive the pipe.

My present invention provides an important improvement affording the maximum adjustment, the improvement consisting in forming the corrugations of the flashing at an angle to the base; thereby possible deformation of the corrugations without rupturing the same is increased and the flashing given a range of adjustment very materially beyond that of corrugations set in planes parallel with the normal plane of the base to thus conform the flashing to any pitch of roof, and the possibility of adjustment is maximized by embodying said angular corrugations in a truncated conical or equivalent downwardly flaring flashing and at about right angles to the pitch of the latter.

Reference is to be had to the accompanying drawings forming a part of this specification, it being understood that the drawings are merely illustrative of one example of the invention.

Figure 1 is a vertical section of a roof flashing embodying my invention with the axis of the tubular body perpendicular to the plane of the base, whereby to adapt the device to a flat roof;

Fig. 2 is a side elevation of the flashing adjusted to accord with the slant of a roof having a pronounced pitch, part being broken away and others in section, the view showing the device applied;

Fig. 3 is a side elevation of my improved flashing adjusted to accord with the ridge or comb of a peak roof;

Fig. 4 is a diagrammatic plan view showing a truncated conical flashing to provide the flare toward the base;

Fig. 5 is a view similar to Fig. 4 but showing a flashing with an elliptical base and a correspondingly formed corrugated body.

In carrying out my invention in practice the improved flashing is formed with a flat base 10 from which rises a body 11, said body flaring toward the base 10. The lower portion of the body 11 is formed with corrugations 14 extending about the flashing. Above the corrugated portion the flashing preferably presents an uncorrugated conical zone 12 while the extreme upper end may be given any suitable form to fit a pipe, the example illustrated showing a short cylindrical neck 13.

As clearly shown in Fig. 1 the corrugations 14 instead of being set parallel with the plane of the base 10 are at an angle to the latter. Therefore, the corrugated portion of the flashing may be deformed as in Fig. 2 to fit a slant roof or given an inverted V-shape to conform at the base to a peak roof as is in Fig. 3. A comparison of Fig. 1 with Fig. 2 or Fig. 3 will indicate the amplitude of the deformation possible without disrupting the material of the

flashing or buckling the corrugations, since the base may be brought at a considerable angle to the vertical axis of the flashing without any stretching strain on the material; this is due to the fullness of material provided, first, because of the series of corrugations, flaring downwardly thereby possessing an increased adjustability as a whole irrespective of the expansion of individual corrugations, the widening base portion permitting of a bodily lateral deflection of the base of the flashing, thereby largely contributing to the amplitude of deformation without rupturing or stretching the metal; second, owing to the angular disposition of the corrugations which may be bent downwardly through a considerable angle to a horizontal plane and then below a horizontal plane in effecting the adjustment and deformation; and third, there is an expansion of more or less of the individual corrugations at the side where they are to be expanded, all of which gives a range of adjustment of the base line to suit any pitch of roof B while preserving the clearance at the interior for the pipe A.

In Fig. 2 the corrugations are compressed at one side as at 14^a and expanded at the diametrically opposite side as at 14^b while in Fig. 3 the corrugations are expanded at diametrically opposite sides as at 14^c and compressed at the intermediate central line, thereby producing a V-shaped base to conform to the peak roof.

In the preferred form of my invention, I provide as in Fig. 2 at the top of the flashing, a sleeve 16 having its upper edge 17 inturned on rounded lines to be received within the upper end of the pipe A to which the flashing is to be applied. Within the sleeve 16 and outside of the upper end of the neck 13, I provide a lead collar 15 to form a tight joint with the pipe A.

The described flashing may be generally of truncated conical form as indicated in the diagrammatic view, Fig. 4, to which I have applied the reference characters of Figs. 1 to 3, or, as indicated in Fig. 5 in which an elliptical base 10^a is represented and a correspondingly formed upper body portion including elliptical corrugations 14^d, a tapering uncorrugated zone 12^a, and a cylindrical neck 13^a.

I would state in conclusion that while the illustrated example constitutes a practical embodiment of my invention, I do not limit myself strictly to the mechanical details herein illustrated, since manifestly the same can be considerably varied without departure from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

1. A roof flashing tapering upwardly and having corrugations initially and normally at right angles to the pitch of the flashing to incline upwardly from the horizontal, and lie normal to the taper of the interior of the flashing.

2. A roof flashing comprising a body having a normally tapering wall, said wall having a portion thereof formed with annular corrugations initially normal to the taper of the wall and thus at approximate right angles to said tapering wall.

3. A roof flashing comprising a body having an annular wall, said wall having annular corrugations, said corrugations being initially and normally disposed at an upward inclination to the horizontal.

FRED E. GROSVOLD.

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