Aug. 19, 1969 K. SANDOW 3,461,625

SELF-FLASHING SKYLIGHT CURB CONSTRUCTION

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Fig. 1

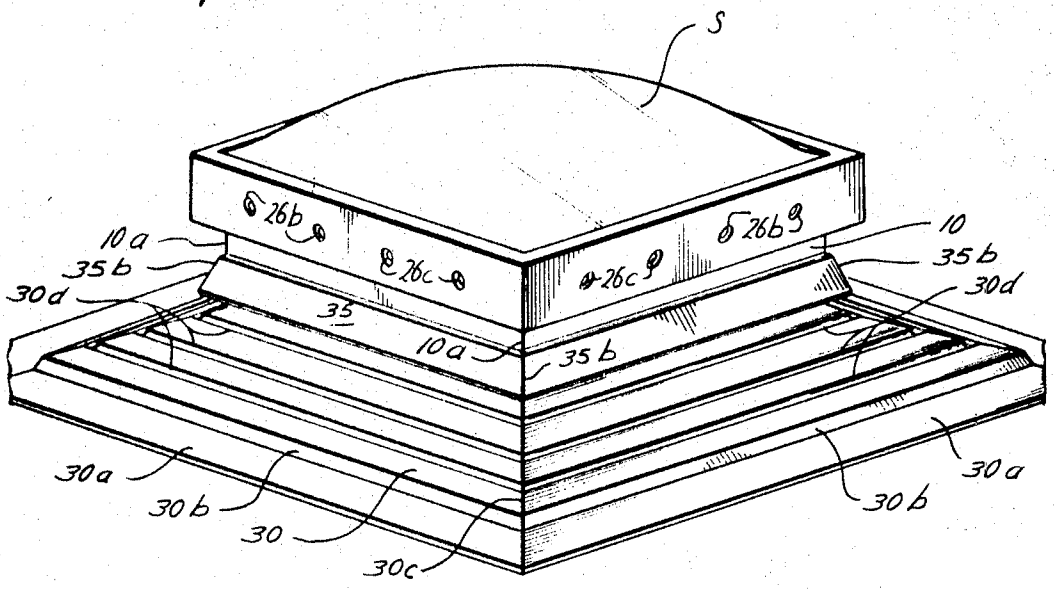
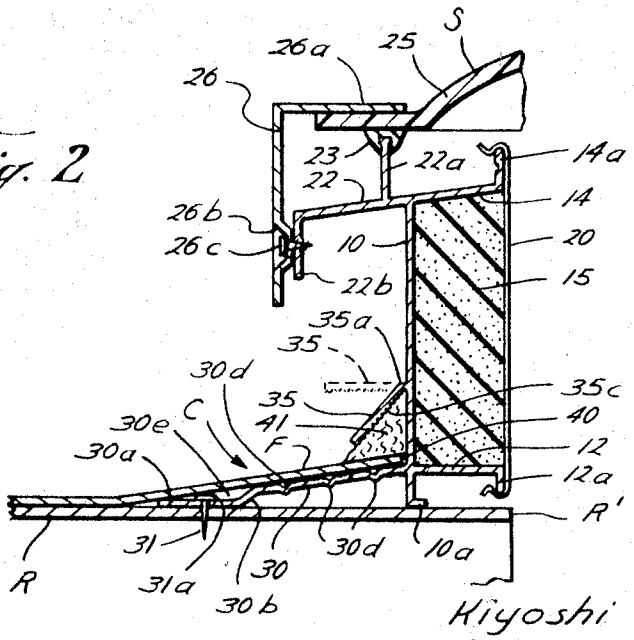


Fig. 2



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SELF-FLASHING SKYLIGHT CURB CONSTRUCTION

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ABSTRACT OF THE DISCLOSURE

A self-flashing skylight curb construction wherein a sloping flange is provided integrally with the curb and which slopes downwardly from the curb to the roof for receiving roofing material thereon, and wherein a flashing gripper is disposed on said curb above said flange for bending downwardly over the ends of the roofing material, whereby the flashing is secured to the frame of the skylight so as to assure a water-tight seal around the skylight.

Background of the invention

The field of this invention is self-flashing skylights, and curbs therefor.

Heretofore, skylights having a bubble or window have been mounted on roofs so as to permit light to enter the buildings upon which they are mounted. Also, skylights of the so-called "self-flashing" type have been manufactured for a number of years.

With prior skylights, there is no place to end the roofer's flashing since the flashing can only butt against the vertical leg of the curb. Because of the difference between the coefficient of expansion and contraction between the aluminum of the curb and the asphalt or other material of the roofing, such butt joint tends to open so that it either leaks or requires constant recementing. Sometimes, even with recementing, leakage still occurs, and such recementing is difficult and expensive.

Also, such prior self-flashing skylights have been constructed with a flat roof flange integral with the upstanding curb. Such flanges are intended to lie flat on the roof so as to receive roof flashing thereon for providing a water-tight seal, but it has been found that such prior art construction have been either defectively formed in extruding or they have become warped from welding at the mitered corners, causing the flange to stick up at its outer periphery. When such "up" condition of the flange occurs, the nailing of the flange to the roof is extremely difficult and it is sometimes necessary to set the entire flange in a heavy mastic bed to close the joint between the flange and the roof deck. Additionally, when the outer edge of the flange has been up, a valley has been formed at the junction between the flange and the curb which causes water to collect there, the most vulnerable point in the flashing.

Furthermore, with such flat flanges, the heads of the nails driven through the flange into the roof deck caused a raised portion in the flashing so as to create or increase the valley around the curb. The foregoing problems have been so severe that many architects have been specifying that the self-flashing curbs be fully flashed just as is done on wooden curbs; such procedure has thus completely defeated the basic premise of the so-called "self-flashing."

Summary of the invention

With the present invention, the accumulation of water at the flashing is avoided by providing a sloping flange which slopes downwardly from the skylight curb to the roof. In addition, an outer strip for nailing is provided which lies flat against the roof deck and which positions

the nail heads in a recess below flashing applied over the flange and the nail heads.

An important feature of the present invention resides in a flashing gripper which is extruded or otherwise formed integrally with the curb above the flange so that the end of the flashing is protected and closed over by such gripper, preferably by bending same downwardly over the end of the flashing.

Brief description of the drawing

FIG. 1 is an elevation illustrating the self-flashing skylight curb construction of this invention with a skylight disposed thereon and with the gripper for the flashing bent to its downward sealing position; and

FIG. 2 is a vertical sectional view illustrating the present invention with the flashing gripper bent downwardly to the sealing position after the flashing has been disposed on the flange connected to the curb of the skylight construction.

Description of the preferred embodiments

In the drawings, the letter C designates generally the self-flashing skylight curb construction of this invention, with a skylight S shown therewith. With the present invention, the curb construction C is disposed on a roof or roof deck R having an opening R′ therein for the positioning of the skylight S thereabove. Flashing F formed of roofing material such as asphalt or roofing felt extend over a portion of the curb construction, as will be explained so as to provide a water-tight seal. As will be more evident hereinafter, the curb construction C of the present invention is a true self-flashing construction as compared to the prior art.

Considering the invention more in detail, the curb construction C includes upstanding or vertical curb sections **10**, the ends of which are normally cut on a miter or are mitered so as to join together in a tight closed corner when welded. Normally, the curb **10** and the parts integral therewith are of extruded aluminum, and each of the four curb sides or section **10** is initially extruded separately and then they are all welded together at their mitered corner edges to form the unitary curb construction C.

The curb formed by the curb sections **10** includes a footing or base **10***a* which rests upon the roof or roof deck R which is of wood, steel, or other suitable material. Each curb section **10** may also have therewith a lower insulation support **12** and an upper insulation cover **14** for receiving a strip of insulation **15**, formed of Fiberglas or other insulating material. A snap-on metallic liner **20** is preferably disposed so as to extend over a downwardly projecting tip **12***a* and an upwardly projecting tip **14***a* so as to hold the insulation **15** in position and to protect it.

An outer shelf **22** extends in the same plane as the upper insulation cover **14** and is preferably integral with the curb section **10**. A seal support leg **22***a* with a gasket **23** of vinyl resin or other suitable sealing material is disposed on the shelf **22** for sealing engagement with the bubble or dome window **25** of acrylic plastic or the like forming the skylight S. It will be appreciated that the material forming the dome or skylight **25** may be of any suitable type so long as light can pass through it and it is sufficiently strong to withstand the forces involved. Such dome **25** is suitably mounted with an extruded aluminum dome frame **26** of conventional construction which has an edge **26***a* disposed over the edge of the dome **25**. A plurality of inwardly extending depressions **26***b* around the frame **26** is provided for spacing the frame **26** from the lower edge **22***b* of the shelf **22** to allow condensation to drip therebetween. Screws **26***c* secure the frame to the edge **22***b*. The upper cover **14** also serves as a condensation gutter, and weep holes (not shown) are

provided in the leg 22*a* for the flow of condensation downwardly along the shelf 22 and between the frame 26 and the edge 22*b*.

With the present invention, the curb sections 10 are each formed with an integral flange 30 which is also formed of the extruded aluminum or other material of which each curb section 10 is formed. The flange 30 is disposed at a point above the base or support 10*a* so that it slopes downwardly and outwardly from the curb to the roof R. A nailing strip portion 30*a* is provided at the outer portion of the flange 30, and it is preferably substantially flat along its lower surface so that it engages the roof R for facilitating the driving of nails through such nailing strip portion 30*a* and into the roof R. One of the nails 31 is indicated in FIG. 2, and a nailing head 31*a* is shown above the nailing strip 30*a*.

It is to be noted that the flange 30 has an upward bend at 30*b* which is inwardly of the nailing strip 30*a* so that the remainder of the flange 30 slopes upwardly towards the curb section 10. The flange 30 is divided into the same number of sections as the curb section 10 so that the sections of the flange 30 are extruded integrally with the curb section 10 and are mitered at their corner edges and are also welded to form the unitary curb construction C as illustrated in FIG. 1. The mitered corners of the flange 30 are designated with the numeral 30*c*, and it will be seen that they are in alignment with the edges 10*a* of the curb section 10 which are welded together.

Preferably, the flange 30 has a plurality of corrugations 30*d* which extend lengthwise thereof for strengthening the flange 30 and for facilitating the holding of roofing mastic therewith.

Each curb section 10 has a flashing gripper 35 formed integrally therewith or connected thereto. The flashing gripper 35 with each curb section 10 is disposed above the flange 30 and extends outwardly substantially perpendicular to the curb section 10 in the original extruded condition (see dotted line position in FIG. 2). The flashing gripper 35 is preferably provided with a reduced thickness at its inner edge or edges 35*a* to facilitate a downward bending of the gripper 35 to the solid line position of FIG. 2 and the position shown in FIG. 1 for serving to cover and retain the flashing F as will be more evident.

Such gripper 35 is preferably formed of aluminum and is normally extruded with the curb 10 and the parts connected therewith such as flange 30. The corner edges 35*b* of each of the gripper sections 35 are mitered so that when the grippers 35 are bent downwardly to the solid line position of FIG. 2, the corners 35*b* engage each other and form a close contacting fit as illustrated in FIG. 1 of the drawings. Such corners may be sealed with mastic, welded, or otherwise sealed, although this is not normally necessary.

In the operation or use of the curb construction C of this invention, such construction C is disposed on the roof R adjacent the roof R′ and then the nails 31 are driven through the nailing strip portion 30*a* and into the roof or roof deck R for securing the flange 30 to such roof R. In view of the recess provided by the flat part of the nailing strip portion 30*a* and the upward bend 30*b*, the nail heads 31*a* are disposed below the upper sloping surface of the flange 30 so that when the flashing F is disposed on the flange 30, the nail heads 31*a* do not cause a raised bump in the flashing F. If desired, prior to positioning the flashing F over the nail heads 31*a*, mastic may be applied to fill the recess or space 30*e* and to thereby cover the nail heads 31*a* so as to prevent any sagging of the flashing or roofing material F.

The flashing F is disposed on the flange 30 so that its end 40 (FIG. 2) is in contact with or in susbtantial abutment with the lower portion of the curb section 10. Roofing cement or similar material 41 is then troweled or otherwise positioned over the end 40 of the flashing F and below the gripper 35. It will be understood that the grippers 35 are in the extended position shown in dotted line in FIG. 2 during the positioning of the roofing cement 41 over the end 40 of the flashing F. Thereafter, the gripping sections 35 are bent downwardly to the solid line position to squeeze the roofing cement and closely confine same over the end 40 of the flashing F. Although it is unnecessary, it will be observed that the inner or lower surface 35*c* of each gripper 35 is corrugated or roughened to facilitate a holding of the roofing cement 41 in position during use.

With the flashing gripper 35 thus bent downwardly, the corner edges 35*b* are in substantial contact so that there is a metal cover provided around the entire curb formed by the four curb sections 10 and over the entire inner ends 40 of the flashing F. Thus, any water which splashes or contacts the outer surface of the curb construction C is deflected downwardly by the grippers 35 and runs down the sloping upper surface of the flashing F. Water cannot accumulate at the inner end 40 of the flashing F due to the slope of the sections of the flange 30 and the protection provided by the grippers 35. Also, water cannot work its way into the area between the flashing F and the flange 30 so as to seep therebetween, whereby leakage around the curb construction C is avoided. In the event there is any shifting or contraction or expansion of the flashing F relative to the construction C, the grippers 35 continue to cover the end 40 of the flashing F so as to prevent leakage at such area.

The foregoing disclosure and description of the invention are illustrative and explanatory thereof, and various changes in the size, shape, and materials as well as in the details of the illustrated construction may be made without departing from the spirit of the invention.

I claim:

1. A self-flashing skylight curb construction, comprising:
   (a) an upstanding curb adapted to be positioned on a roof and having a plurality of interconnected upstanding curb sides defining an opening for receiving a skylight thereon, each of said curb sides having an upper end and a lower end;
   (b) a lateral flange extending outwardly from the entire external surface at substantially the lower end of each of said curb sides;
   (c) a flashing gripper integral with each of said curb sides intermediately said upper end and said lower end and extending outwardly of each of said upstanding curb sides and disposed above said flange for disposition over flashing; and
   (d) each of said flashing grippers being separate from each other at the ends of the curb sides and bendable at an area near each of said curb sides for bending same downwardly after flashing is in position on said flange.

2. The structure set forth in claim 1, wherein:
   (a) said curb is formed with four of said curb sides which define said opening for the disposition of the skylight thereabove;
   (b) each of said sides has corner edges which are joined with adjacent corner edges on the sides adjacent thereto; and
   (c) said flange is formed in four flange sections, with each flange section being integral with one of said sides and with the adjacent edges thereof being mitered and joined together.

3. The structure set forth in claim 2, wherein:
   (a) said flange has a nailing strip portion which is substantially flat for the engagement of its lower surface with the roof; and
   (b) said flange slopes upwardly from said nailing strip to the junction between said flange and said curb.

4. The structure set forth in claim 1, wherein:
   (a) said flange has a nailing strip portion which is substantially flat for the engagement of its lower surface with the roof; and
   (b) said flange slopes upwardly from said nailing strip

to the junction between said flange and said curb.

5. The structure set forth in claim 1, wherein:

(a) said curb is formed with four of said curb sides which define said opening for the disposition of the skylight thereabove;

(b) each of said sides has corner edges which are joined with adjacent corner edges on the sides adjacent thereto;

(c) said flange is formed in four flange section, with each flange section being integral with one of said sides and with the adjacent edges thereof being mitered and joined together; and

(d) said gripper is formed in four sections, with each section integral with said curb and with the end edges being mitered so that upon bending downwardly such edges are substantially in contact with each other at each corner.

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