May 12, 1959 J. H. GOODWIN 2,885,974

ROOFING CONSTRUCTION

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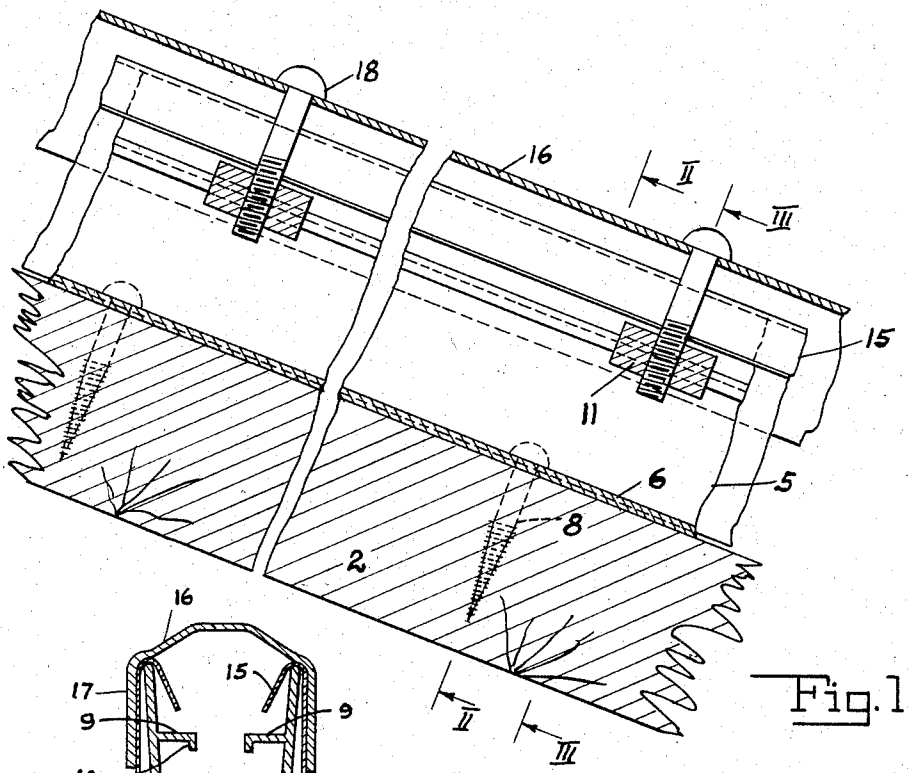


Fig. 1.

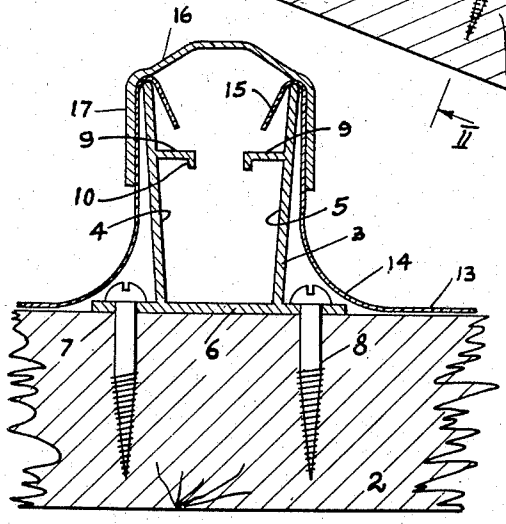


Fig. 2.

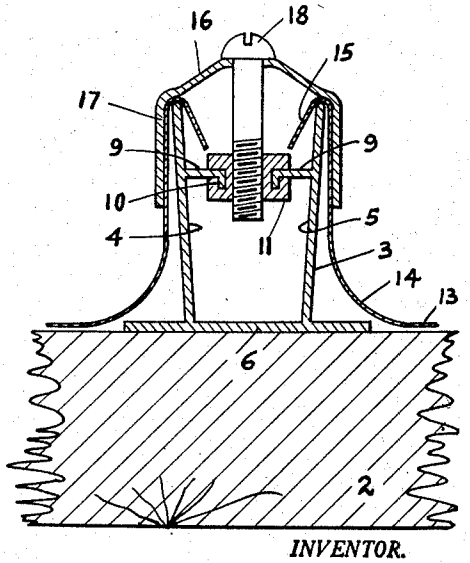


Fig. 3.

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This invention is for an improvement in roofing and relates particularly to a batten type of roofing in which the roofing sheets at their edges have a water-tight engagement with the batten.

The invention is for an improvement in roofing of the general type disclosed in my prior Patent No. 2,447,065, granted August 17, 1948. In my said patent there is disclosed a batten type of roofing in which the edges of the roofing sheets are bent up along the sides of a batten which extends down the slope of the roof, and there is a cap strip which serves to clamp the edges of the sheets to the sides of the batten.

The principal object of the present invention is to provide a roof construction of this type in which the batten is formed of metal, and in addition to forming a waterproof connection between the batten and the roofing sheets, also provides an entirely waterproof connection between the batten and the roof structure preventing entrance of the water flowing over the roof into the structure upon which the batten is mounted.

In the drawings forming part of this disclosure:

Fig. 1 is a longitudinal vertical section through the batten portion of a roof constructed in accordance with my invention;

Fig. 2 is a transverse vertical section taken along the lines II—II of Fig. 1; and

Fig. 3 is a transverse vertical section taken on the lines III—III of Fig. 1.

In the drawings, reference character **2** designates a roof support which may be of concrete, structural metal, wood, or any other material commonly used for the roofing structure of a building. Mounted on the roof support are a plurality of battens **3**, only one of which is shown in the drawings, all others being of similar construction. These battens extend up and down the slope of the roof. They are formed with two upwardly-extending side flanges **4** and **5** connected at their base by a member **6** which extends continuously between and beyond each flange **4** and **5**. At each side of the said flanges the member **6** has slotted openings **7** therein through which extend the fastening members **8** securing the batten to the roof structure. Intermediate the vertical dimension of each flange **4** and **5** is an inwardly-extending substantially horizontal flange **9** terminating in an angularly-disposed flange **10**. These flanges **9** extend longitudinally of the length of the batten and their flanges **10** are disposed in horizontally spaced relation. Mounted on the batten flanges **9** and **10** are a plurality of members **11** having at each side thereof suitably shaped inwardly-extending openings to receive the ends of the batten flanges **9** and their associated flanges **10** so that the members **11** are slidable thereon longitudinally of the batten. At substantially the center line of the batten, each member **11** has a tapped opening extending therethrough for reception of a screw-threaded fastening member. These battens may be of relatively light weight metal and are most economically made of

an extruded metal such as aluminum, brass, or any other suitable metal.

The roofing sheets are designated **13**. They have their edges turned upwardly to provide substantially vertically-extending flanges **14** disposed adjacent the preferably slightly diverging upwardly-extending batten flanges **4** and **5**. The upturned roof flanges **14** each have an inwardly-turned lip **15** extending therealong, these lips hooking over and overhanging the top of the flanges **4** and **5** as clearly shown in the drawings.

There is a cap strip or cover strip **16** having downwardly-extending flanges **17** that fits over the batten so as to be supported thereon and the flanges **17** embrace the upturned edges **14** of the roof sheets. At suitably spaced intervals longitudinally of the length of the cap strip are suitable openings for reception of a threaded fastening member such as a machine screw **18**, the shank of which extends inwardly of the cap strip and is engaged with the tapped opening in the member **11** slidably mounted upon the batten flanges **9** and **10**.

In assembling the roof, the battens **3** are first secured to the roof structure by the fastening members **8** extending through the elongated openings **7** in the member **6** of the batten. In those cases where the roof is laid across structural members or concrete having preformed openings therein for reception of the fastening members, the elongated openings **7** permit slight adjustment necessary to admit matching up with such preformed openings. The roof sheets are then put down. Usually the flanges **14** will have been formed in advance and the lips **15** will also usually have been formed in advance. After the roof sheets have been put in place the cap strip **16** is fitted into position and the fastening members **18** extending through the cap strip **16** are engaged with the members **11** mounted within the batten. As clearly shown in the drawings, as the cap strip is fastened in position it forces the lips **15** of the roofing sheets into engagement with the tops of the batten flanges **4** and **5** forming a waterproof seal. The flanges **17** of the cap strip **16** embrace the flanges **14** of the roofing sheets, forming a tight joint or connection therewith.

The construction herein disclosed and described is thoroughly water-tight because any wind-driven rain or melted snow which may be driven up the vertical surfaces of the flanges **14** of the roofing sheets will drop off the downturned lips **15** of the roofing sheets into the gutter formed by batten flanges **4** and **5** and bottom member **6** so as to drain out longitudinally at the lower end of the batten. Should any water leak in under the heads of the screws **18** and run down these screws, such water will also fall upon the member **6** of the batten and drain out longitudinally at the lower end of the batten. The fastening members **8** securing the batten bottom member **6** to the roof structure are disposed upwardly of the batten flanges **4** and **5**, and beneath the roof sheets **13** so that no water reaches these fastening members, and hence cannot leak in around the fastening members into the building structures. The elongated openings **7** through which the fastening members **8** extend also provide for relative movement between the batten members **6** and the member **8** during expansion and contraction of the batten.

While I have shown and described one particular form of my invention, it is to be understood that this is the present preferred form and the various details of construction are for purposes of illustration and not limitation except as made necessary by the scope of the appended claims.

I claim:

1. A batten for use with a cap strip in retaining metal roof sheets in assembled relation, comprising a base portion adapted to be disposed in longitudinal alignment

with the slope of the roof, upwardly extending flanges on said base portion disposed in inwardly spaced alignment with the longitudinal edges of the base portion and forming therewith an imperforate channel for carrying any water received therein down the slope of the roof, suitably spaced apertures in said base portion outwardly of said flanges for reception of fastening members securing the batten to the roof supporting structure, inwardly extending opposing spaced flanges on said upwardly extending flanges and disposed intermediate the vertical height of said upwardly extending flanges, each said opposing flanges terminating in a portion disposed in a direction transverse to the plane of the body of said flanges, cap strip attaching members slidably mounted upon said opposing flanges, each said member extending across the space between said flanges and having suitably shaped openings in opposite sides thereof slidably receiving the adjacent edges of the opposing flanges to form a continuous connection between the batten upwardly extending flanges, and means forming suitably tapped openings in said members between said opposing flanges for reception of screw threaded fasteners extending downward between the batten side flanges when securing a cap strip to the batten.

2. A batten for use with a cap strip in retaining metal roof sheets in assembled relation, comprising a base portion adapted to be disposed in longitudinal alignment with the slope of the roof, upwardly extending diverging flanges on said base portion disposed in inwardly spaced alignment with the longitudinal edges of the base portion and forming therewith an imperforate channel

for carrying any water received therein down the slope of the roof, suitably spaced apertures in said base portion outwardly of said flanges for reception of fastening members for securing the batten to the roof supporting structure, inwardly extending opposing spaced flanges on said upwardly extending diverging flanges and disposed intermediate the vertical height of said upwardly extending flanges, each said opposing flanges terminating in a portion disposed in a direction transverse to the plane of the body of said opposing flanges, cap strip attaching members slidably mounted upon said opposing flanges, each said member extending across the space between said flanges and having suitably spaced member side portions underlying the adjacent edges of the opposing flanges, and means forming suitably tapped openings in said members between said opposing flanges for reception of screw threaded fasteners extending downwardly between the opposing flanges when securing a cap strip to the batten.

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