A. J. CHURCHILL.

ROOF JOINT.

APPLICATION FILED SEPT. 27, 1915.

1,195,338. Patented Aug. 22, 1916.

Fig. 1

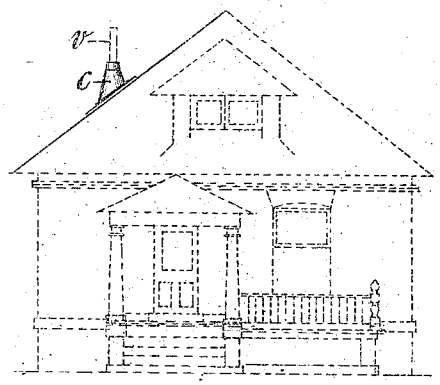


Fig. 2

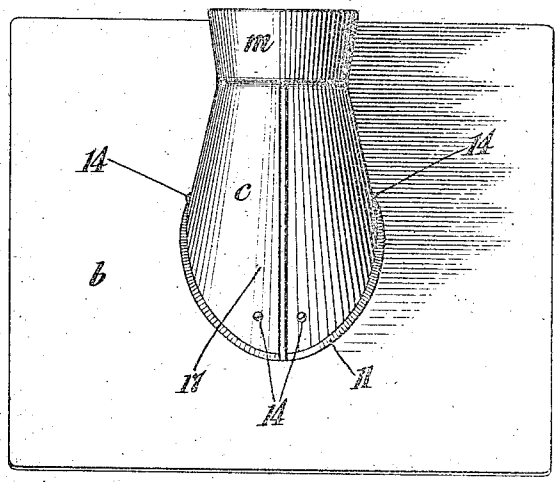


Fig. 3

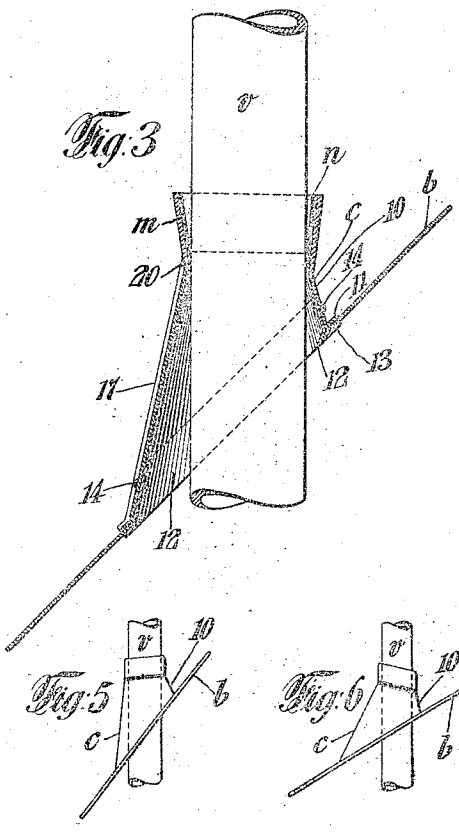


Fig. 4

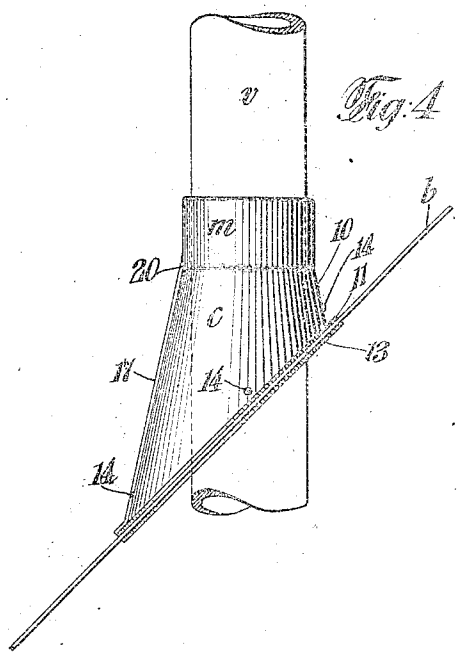


Fig. 5

Fig. 6

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ROOF-JOINT.

1,195,338. Specification of Letters Patent. Patented Aug. 22, 1916.

Application filed September 27, 1915. Serial No. 52,806.

To all whom it may concern:

Be it known that I, ALLEN J. CHURCHILL, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Roof-Joint, of which the following is a specification.

This invention relates to roof joints for making weatherproof the junction between the exposed surface of the roof and a pipe projecting through the roof for ventilation purposes.

The object of the invention is to supply in a single unitary structure a roof joint which will provide a weatherproof joint and adapt itself to varying angles between the vertical vent pipe projecting through the roof and the angle formed by the intersection of the roof line, and which will, at the same time, provide a cheap and durable weatherproof device.

The improved roof joint consists of a sheet or base preferably of sheet metal, perforated to receive the projecting pipe section; around the perforation, a hollow cone of sheet metal is fixed to the base by a reinforcing joint; this cone is truncated, and the reinforcing ring is flanged, the flange taking against the under-side of the base, and being riveted to the cone or to both cone and base, the idea being to prevent any ordinary manipulation from disturbing the junction between this truncated cone and the base. The major axis of the cone is located at an acute angle with respect to the plane of the base or sheet, and a truncated cone of soft metal, like lead, is attached to the free end of the first named cone; these two cones are joined at their apices, and the last named cone being formed of soft metal, is adapted to form a long watertight junction with the surface of the vent pipe, its free edge being compressed upon the exterior of the vent pipe, and to make this junction completely watertight, plumbers' cement or red lead paste may be applied.

The accompanying drawing illustrates the invention.

Figure 1 shows the roof joint applied; Fig. 2 shows a front elevation of the joint; Fig. 3 is a vertical section of the device as manufactured and before being fitted to the pipe; Fig. 4 is a side elevation and Figs. 5 and 6 are details showing the applicability of the joint to roofs of different pitch.

There is a base piece of sheet metal *b;* the perforation is inclosed by a flange of sheet metal in the form of a hollow truncated cone *c*. The meeting edges of the sheet metal from which this portion *c* is formed, are folded and united to form a watertight junction, as shown at 20. The section *c* has a long edge 17 and a short edge 10, adapting it to form an acute angle with the base *b;* the lower edge of *c* is flanged as shown at 11, the flange rests on the exposed surface of the base *b;* to reinforce and stiffen the junction between base *b* and the section *c*, a ring of sheet metal 12 is provided which is riveted to the part *c*, as at 14; the edge of the ring 12 is flanged, at 13, and this flange 13 underlies the base *b*, see Fig. 3. This reinforcement provides against a leak at the junction between the part *c* and *b*, in case any deflection from the vertical occurs in the location of the vent pipe *v*. The free end or apex of the cone-shaped section *c* is united to the apex of a cone-shaped section *m;* in other words, the section *m* is a flange of soft metal having its greatest diameter at its free edge; it results from this construction that any pitch of the roof say from one-quarter inch to one-half inch drop per foot, can be accommodated in one unitary structure. When the roof joint described is in position, and the vent pipe *v* is in place, as shown in Fig. 3, the flange *m* is closed down upon the coating of plumbers' cement *n* and a long tight joint results from contracting the flange or cone *m* upon the vent pipe, and a calking tool may be used on the free edge of the flange *m*.

What I claim is:

1. In a roof joint, the combination of a section of thin, sheet-metal in the form of a truncated cone flanged at its base, a flanged ring of metal fixed to the base of said cone section adapted to impart rigidity thereto, a perforated base of metal clamped between said ring flange and said cone flange, and a flexible section of soft sheet metal in the form of a truncated cone fixedly united to the first-named cone section so as to present its base at the top or free edge of the unitary structure, and adapted to be forced into contact with a vent pipe and form a long, impervious junction.

2. In a roof joint, the combination of a section of thin, sheet-metal, in the form of a truncated cone flanged at its base, a rigid, flanged ring, fixed to the cone base; a perforated base of sheet-metal, its inner edge located between the ring flange and the cone flange, and a soft, thin, sheet-metal truncated cone having its apex fixedly united to the apex of the first-named cone section and its base free, said cone section adapted to form a long junction with the vent pipe.

ALLEN JESSUP CHURCHILL.

Witnesses:
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