No. 696,139. Patented Mar. 25, 1902.

C. A. GRANTON.

ROOF JOINT.

(Application filed Nov. 11, 1901.)

(No Model.)

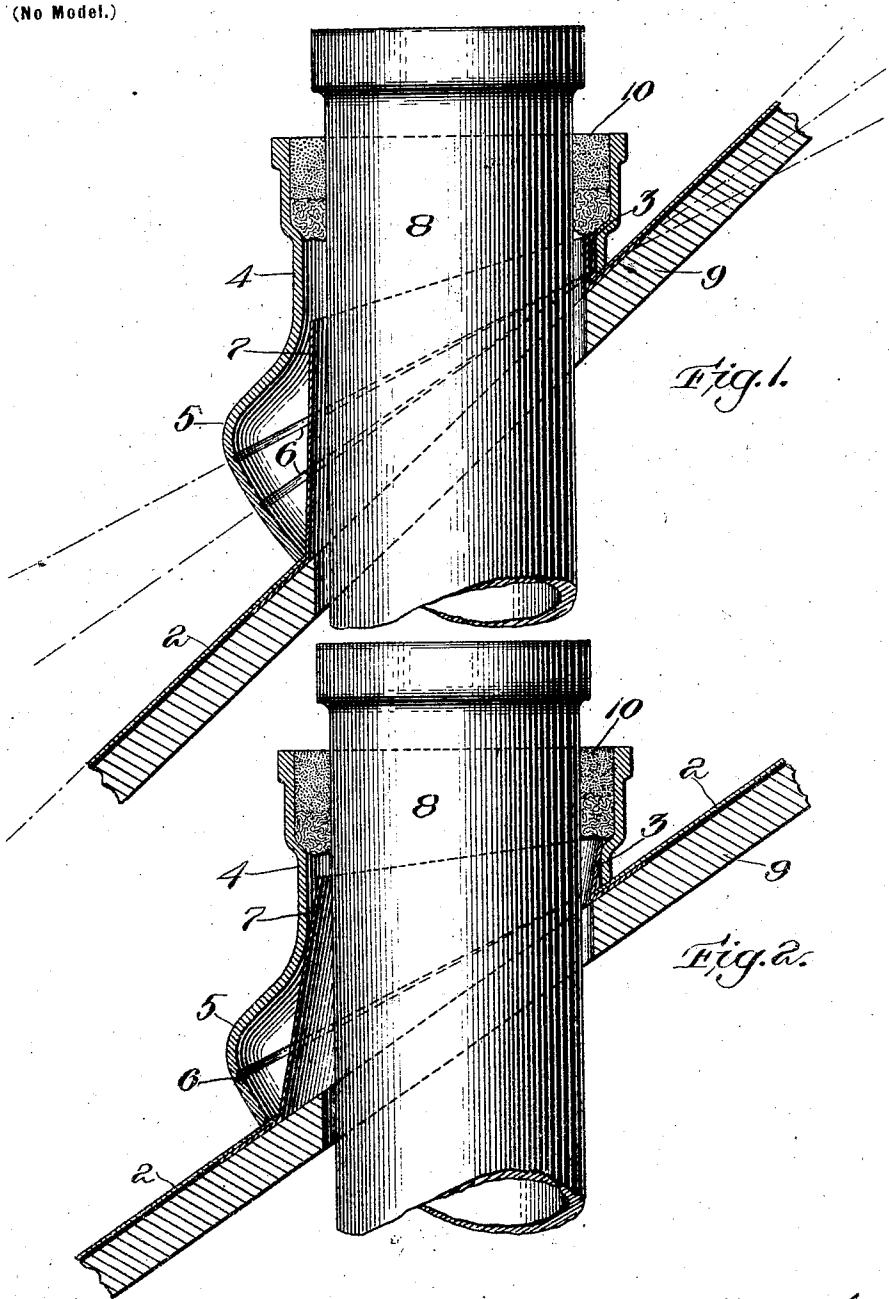


Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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ROOF-JOINT.

SPECIFICATION forming part of Letters Patent No. 696,139, dated March 25, 1902.

Application filed November 11, 1901. Serial No. 81,866. (No model.)

To all whom it may concern:

Be it known that I, CLIFTON A. GRANTON, a citizen of the United States, residing at Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Roof-Joints, of which the following is a specification.

A common form of roof-joint for soil-pipes and the like consists of a perforated sheet-copper flashing having its perforation surrounded by an upwardly-extending flange and a cylindrical thimble the lower end of which is beveled to correspond with the pitch of a roof and is slipped over the flange on the flashing. The flashing is secured to the roof over the hole through which the soil-pipe passes and is covered by shingles or slate, and a suitable packing is introduced between the upper end of the thimble and the sides of the pipe to form a tight joint. Since different roofs differ greatly in their pitch, it has hitherto been necessary to carry in stock a number of thimbles having their respective lower edges beveled at angles corresponding substantially with the pitch of different roofs, and it has also been necessary to provide flashings with perforations and flanges corresponding in shape to the lower ends of these different thimbles, because the flatter the roof the shorter will be the ellipse formed by the lower end of the beveled cylindrical thimble, and hence the shorter must be the ellipse formed by the flange over which the thimble fits. The result has been that it has not only been necessary to carry a large number of thimbles and flashings in stock, but it also frequently happens that a plumber will take with him a flashing and thimble which prove to be of the wrong size to fit the roof on which he is at work, and a considerable amount of trouble and delay is thus involved in changing them.

My invention is intended to provide a simple and inexpensive roof-joint of the type above referred to, so constructed that a single thimble and flashing may be readily adapted to fit a roof of any pitch; and to this end I employ a flashing made substantially like those heretofore used, but with a perforation which is large enough to be used with a roof of the steepest pitch, to which my joint must be fitted, and I provide a thimble the lower end of which is adapted to be trimmed or chipped off, and thus made to form any desired angle with its axis, and I form this thimble with an outwardly bulging or flaring portion so proportioned that after trimming or chipping the thimble to provide the desired angle its lower end will still receive the upwardly-projecting flange on the flashing and rest upon the flat base of the latter in the usual manner.

In the accompanying drawings, Figure 1 is a central vertical section through a portion of a roof with a joint embodying my invention applied thereto, and Fig. 2 is a similar section showing my joint applied to a roof of different pitch from that shown in Fig. 1.

As shown in the drawings, my joint comprises a perforated flashing 2, having its perforation surrounded by an upwardly-extending flange 3, around which a thimble 4 is fitted. This thimble is provided, preferably on its lower side, with an outwardly-bulging portion 5 of such a shape that if the bottom of the thimble is cut off on any plane intersecting the upper side of its lower edge and making any desired angle with its axis within the usual limits the bottom of the thimble will still fit over the flange 3 of the same flashing. The thimble 4 is preferably made of cast-iron, and in this case it is scored internally, as shown at 6, along lines on which it is intended to have its lower edge removed in order that those portions of the thimble which are below either of the lines 6 may be easily chipped off by the plumber when attaching the device to a roof.

It is the custom to use a flashing and thimble which fit loosely over the soil-pipe, and hence the thimble shown in Fig. 1 may be applied without changing its lower edge to roofs which do not vary in pitch from that shown in Fig. 1 more than one inch to the foot either way without materially disturbing the relative position of the parts or causing the thimble to make an unsightly angle with the roof and soil-pipe, and the same is true when the thimble is trimmed, as above described, so that in practice I prefer to score the thimble

along the two lines 6 only, which are so located that before the thimble has been trimmed at all it may be used with roofs having a pitch of from ten to twelve inches to the foot, and when trimmed along the lower line 6 it may be used with roofs having a pitch of from eight to nine inches to the foot, and when trimmed along the upper line 6 it may be used with roofs having a pitch of from six to seven inches to the foot. It will be understood, however, that the bulging portion 5 may be so formed as to make the thimble capable of being fitted to roofs of greater or less pitch than those above mentioned; but in order to avoid making the thimbles undesirably heavy and unsightly I prefer to make them in two sizes, one adapted to be used for the roofs above referred to and the other for roofs varying from a flat roof to one having a pitch of six inches to the foot, as it will always be very easy for the plumber to determine at a glance which size is to be used with a given roof, and thus to avoid any possibility of mistake. It will be understood also that instead of making the thimble of cast-iron it may be made of copper, lead, or other suitable material, in which case the scored lines 6 may be omitted and the thimble may be trimmed to any desired angle with an ordinary pair of metal-cutting shears.

I prefer to make one side of the flange 3 high enough to cover the space left by the bulging portion 5, as shown at 7, in order to prevent snow and ice from working up under the lower edge of the thimble through said bulging portion and over the top of the flange.

The flange 3 will evidently be somewhat inclined to the vertical, as indicated in Fig. 2, except when applied to a roof of one particular pitch; but there is enough space between the thimble and the soil-pipe to prevent such inclination from interfering materially with the fitting of the parts together, and even if said parts do bind somewhat the flange is so thin and flexible that it will yield readily.

In applying my roof-joint the flashing is passed over the pipe 8 and secured to the roof 9 in the usual manner, and the thimble is then slipped over said pipe and fitted around the flange 3, after which a packing of any approved kind is applied at the top of the thimble for closing the space between it and the pipe 8, an ordinary calked joint 10 being shown in the drawings. It will be noted that my thimble is not rigidly attached to the flashing at any point, but forms a slip-joint therewith, so that expansion and contraction of the pipe 8 will have no tendency to disturb the attachment of the flashing to the roof

I claim as my invention—

1. In a roof-joint, a thimble having its bottom edge inclined with respect to its axis to correspond with the pitch of the steepest roof to which the joint is to be applied, and adapted to have portions of said bottom edge removed along various planes converging toward the upper side of the thimble, the lower side wall of said thimble being bulged outwardly in such manner as to have a substantially constant elliptical section on any of said planes, substantially as and for the purpose set forth.

2. In a roof-joint, a cast-iron thimble having its bottom edge inclined with respect to its axis and scored on lines corresponding with planes of varying inclination which converge toward the upper side of the thimble near its top, said thimble having its lower side wall bulged outwardly in such manner as to have a substantially constant elliptical section on any of said planes, substantially as and for the purpose set forth.

3. A roof-joint comprising, in combination, a flashing having its base provided with an elliptical perforation surrounded by an upwardly-extending flange, and a thimble having its bottom edge inclined with respect to its axis, to correspond with the pitch of the steepest roof to which the joint is to be applied, and adapted to have portions of said bottom edge removed along various planes converging toward the upper side of the thimble, the lower side wall of said thimble being bulged outwardly in such manner as to be capable of receiving said flange when trimmed along any of said planes, substantially as described.

4. A roof-joint comprising, in combination, a perforated flashing provided with an upwardly-extending flange, and a thimble adapted to fit loosely over said flange and rest upon the base of said flashing with its upper end substantially horizontal, said thimble having its bottom edge adapted to be removed along various planes converging toward the upper side of said thimble and having its lower side wall bulged outwardly in such manner as to give it a substantially constant section on any of said planes, substantially as described.

5. A roof-joint comprising, in combination, a flashing having a base 2 provided with an elliptical perforation surrounded by a flange extending upwardly therefrom, and a cast-iron thimble 4 adapted to fit loosely over said flange and rest upon the base 2 with its upper end substantially horizontal, said thimble having its lower side wall bulged outwardly at 5, as described, and being scored along lines 6 converging toward the upper side of said thimble, near its top, substantially as described.

6. A roof-joint comprising, in combination, a flashing having a base 2 provided with an elliptical perforation surrounded by a flange 3 extending upwardly therefrom, and a cast-iron thimble 4 adapted to fit loosely over said flange and rest upon the base 2 with its upper end substantially horizontal, said thimble having its lower side wall bulged out-

wardly at 5, as described, and being scored along lines 6 converging toward the upper side of said thimble near its top, the flange 3 being increased in height at its lower side to cover the space left by said bulging portion in the interior of the thimble.

In testimony whereof I have hereunto subscribed my name this 5th day of November, 1901.

CLIFTON A. GRANTON.

Witnesses:
GREENLEF CLARKE,
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