

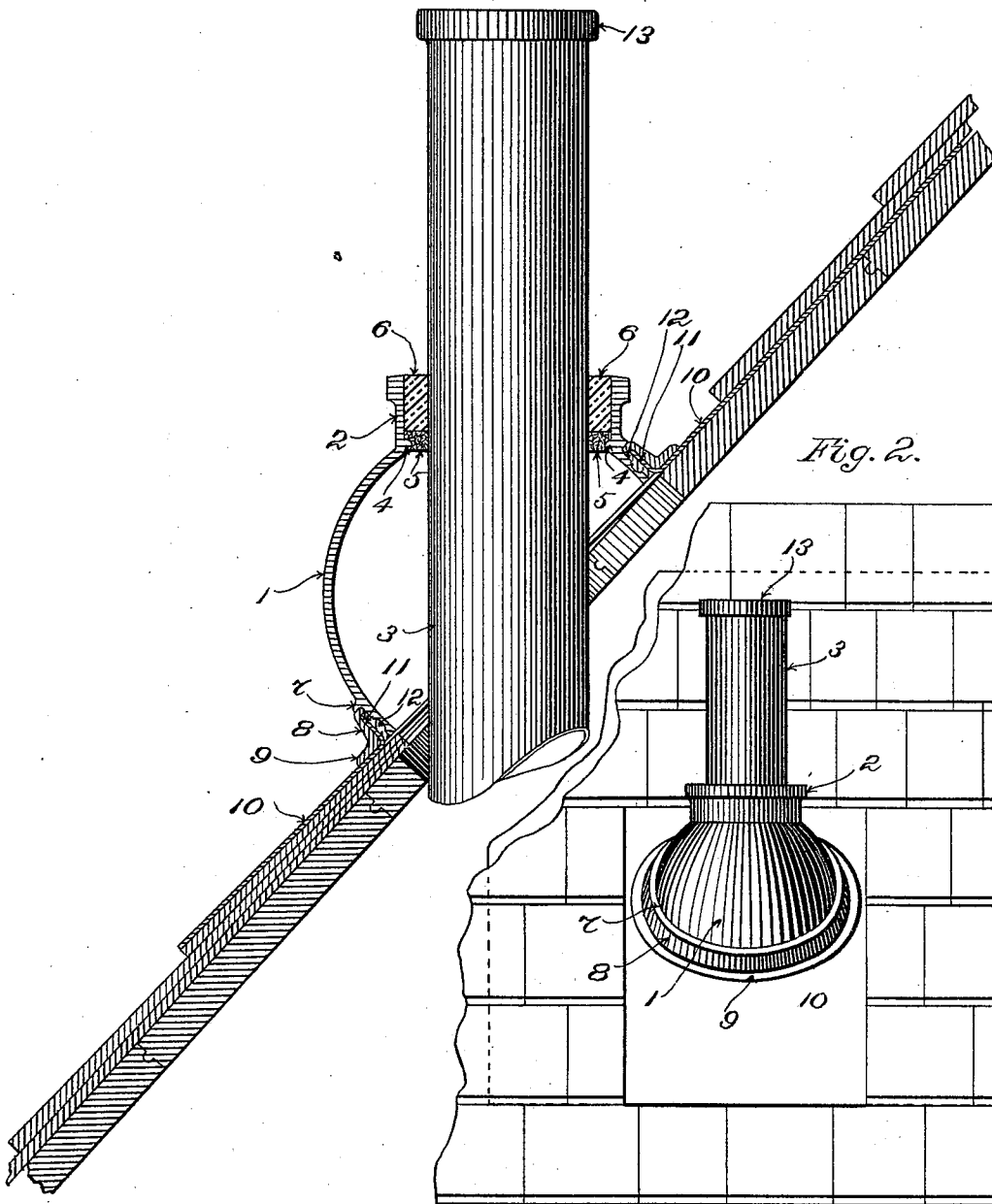
(No Model.)

F. J. PERKINS & J. W. SMITH.  
ROOF FLANGE.

No. 582,795.

Patented May 18, 1897.

*Fig. 1.*



*Fig. 2.*

Witnesses:  
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# UNITED STATES PATENT OFFICE.

FRANKLIN J. PERKINS AND JOHN W. SMITH, OF WOBURN, MASSACHUSETTS;  
SAID PERKINS ASSIGNOR TO SAID SMITH.

## ROOF-FLANGE.

SPECIFICATION forming part of Letters Patent No. 582,795, dated May 18, 1897.

Application filed May 22, 1896. Serial No. 592,532. (No model.)

*To all whom it may concern:*

Be it known that we, FRANKLIN J. PERKINS, a citizen of the United States, and JOHN W. SMITH, a citizen of the Dominion of Canada, residing at Woburn, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Roof-Flanges, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention has for its object to provide an improved roof flange or cover for use in forming a tight joint around ventilating-pipes and the like which pass through the roofs of buildings.

The invention is fully set forth in the following description, and the novel features thereof are pointed out and clearly defined in the claims at the end of this specification.

In the drawings, to which reference is made in the following description, Figure 1 is a sectional view of a roof, showing a roof flange or cover embodying our invention in position around the upwardly-projecting end of a ventilating-pipe. Fig. 2 is a side elevation of what is shown in Fig. 1, reduced in scale.

Ventilating-pipes and the like are frequently projected through the roofs of buildings, and it becomes necessary in such a case to form a tight joint around the said pipe where it projects through the roof to prevent the roof from leaking at that point. It is also desirable that the means employed for forming this joint should be such as may be placed in position when the roof is shingled or otherwise finished and the ventilating-pipe be placed in position when the plumbers or those having the construction of the pipes in charge are ready to place them in position. These objects we obtain by the employment of a roof flange or cover embodying our invention. It usually is the case that the ventilating-pipe passes through a sloped or inclined roof. If a flashing consisting of a flat sheet of copper or the like should be laid upon the roof, the hole which would have to be cut therethrough in order to fit the exterior of the pipe would, as will be clear, be elliptical in shape, not circular, as in the case of the cross-section of the pipe, and the length of the major axis of the ellipse would increase relatively to that of the minor axis in proportion to the pitch

or inclination of the roof. Such a flashing should have the edge of the hole through the same turned upwardly, so as to constitute an upwardly-extending flange around the projecting part of the ventilating-pipe. It is difficult to form the flange at and around the ends of an elliptical hole without breaking or cracking the material of the flange, and the difficulty increases in proportion as the width of the ellipse decreases. Splitting or cracking of the flange is undesirable, inasmuch as it is conducive of leakage. It is desirable that the hole through the flashing should be circular and also that the flange should project from the flashing at right angles throughout the entire distance around the hole instead of being inclined at an angle on the surface of the flange, as ordinarily has been the case heretofore.

Referring to the drawings, 1 is a body portion of nearly hemispherical shape having at the top thereof a collar 2, which is designed to occupy a vertical position surrounding the ventilating-pipe 3. The collar 2 is preferably cast integral with the part 1, and where the collar and part 1 join we form an inwardly-projecting annular flange 4. When the pipe is in position, the joint or space between the collar 2 and pipe 3 is calked in the well-known manner, a mass of oakum or similar material 5 being placed in position at the inwardly-projecting flange 4 and the space 6 above the oakum being filled with lead or other suitable calking material. The calking inside the collar 2 and between said collar and the pipe 3 may be done, as will be clear, with the roof flange or cover in position and may be thoroughly done, so as to form a perfectly-tight joint. Near the edge of the part 1 which is adjacent the roof of the building is formed an exterior flange 7, which rests upon the top of a flanged ring or collar 8, the lower end of the part 1 extending below the upper edge of said ring 8. The flange of said ring 8 is shown at 9, the ring and flange together being L-shaped in cross-section, as shown. The upper edge of the ring 8 may be turned inwardly slightly to form a proper bearing for the projection 7 on the body part 1. In this way a space is formed between the edge of the part 1 which is adjacent the roof and the said ring 8. Before the device is applied to the

roof the part 1 is set in the collar 8. A flashing, consisting of a sheet 10, of flat copper or the like, which is cut away centrally to form a circular opening for the passage of the ventilating-pipe 3, is provided. The edges of the copper flashing around the aperture or opening therein are turned up substantially at right angles, forming an upwardly-projecting flange 11, which is formed of proper size to fit the opening between the base portion of the body part and the collar 8. Both the said base portion and the said collar are formed circular to receive the circular flange which is formed on the flashing, and the said base portion is formed at right angles to the plane of its edge around the opening thereof. The flange 11 of the flashing is inserted in the opening between the body part and the collar, and the space between the said flange and the edge of the body 1 is then calked with lead or similar material, as shown at 12, forming a tight joint, and also serving to secure the body 1, collar 8, and flashing firmly together. After the flashing has been applied and the joint calked the roof flange or guard is ready to be applied to the roof of the building, and if the roof be shingled the shingles may be applied in the well-known manner around and upon the flashing, so that all danger of the roof leaking may be avoided. The fact that the base of the body portion 1 is circular—that is, the lower edge of the said body portion which is adjacent the roof is a circle—we consider an important feature of our invention, since it enables us to provide a circular opening in the flashing 10 and to form around the edges of the said opening in the flashing a continuous flange 11, which will stand at right angles substantially to the flashing. Because of these peculiarities of construction the cost of construction is materially lessened and a much more effective device obtained.

As ventilating-pipes such as are shown at 3 have on the upper end thereof an enlarged portion, such as is shown at 13, the opening inside the flanges 4 at the base of the collar 2 requires to be of sufficient size to permit the pipe to be pushed up through the said opening after the roof flange or cover is in position on the roof.

Our device may be furnished ready to put in position, and when in position the workmen putting up the ventilating-pipes may readily put the pipes in position and secure them in place, forming a tight joint which will not permit access of moisture.

As the collar 2 should be substantially perpendicular or parallel with the ventilating-pipe, the angle of the edge 1 of the body portion which lies adjacent to the roof should be such as would correspond with the angle of the roof. We contemplate constructing these roof-flanges with a number of different angles to fit roofs of any usual angle of inclination.

What we claim is—

1. The combination with the body portion having an opening at the top thereof for the passage of a ventilating-pipe, and also having the circular base portion which is formed at right angles to the plane of its edge around the opening of such base portion, of a ring fitting such base portion, and a flashing having a circular opening therethrough and a flange extending therefrom at right angles around such opening and received between the base portion and the ring, substantially as described.

2. The improved roof-flange comprising the body portion having the circular base portion which is formed at right angles to the plane of its edge around the opening of such base portion, and also having the exterior flange 7 adjacent to the said base portion, the ring 8 into which the said base portion extends, and on the upper edge of which the flange aforesaid rests, the flashing having a circular opening therethrough and also having a flange projecting therefrom at right angles around such opening and received between the said base portion and the said ring, and the calking 12 introduced to form a tight joint and securing the ring and flange together, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANKLIN J. PERKINS.  
JOHN W. SMITH.

Witnesses:

WM. A. MACLEOD,  
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