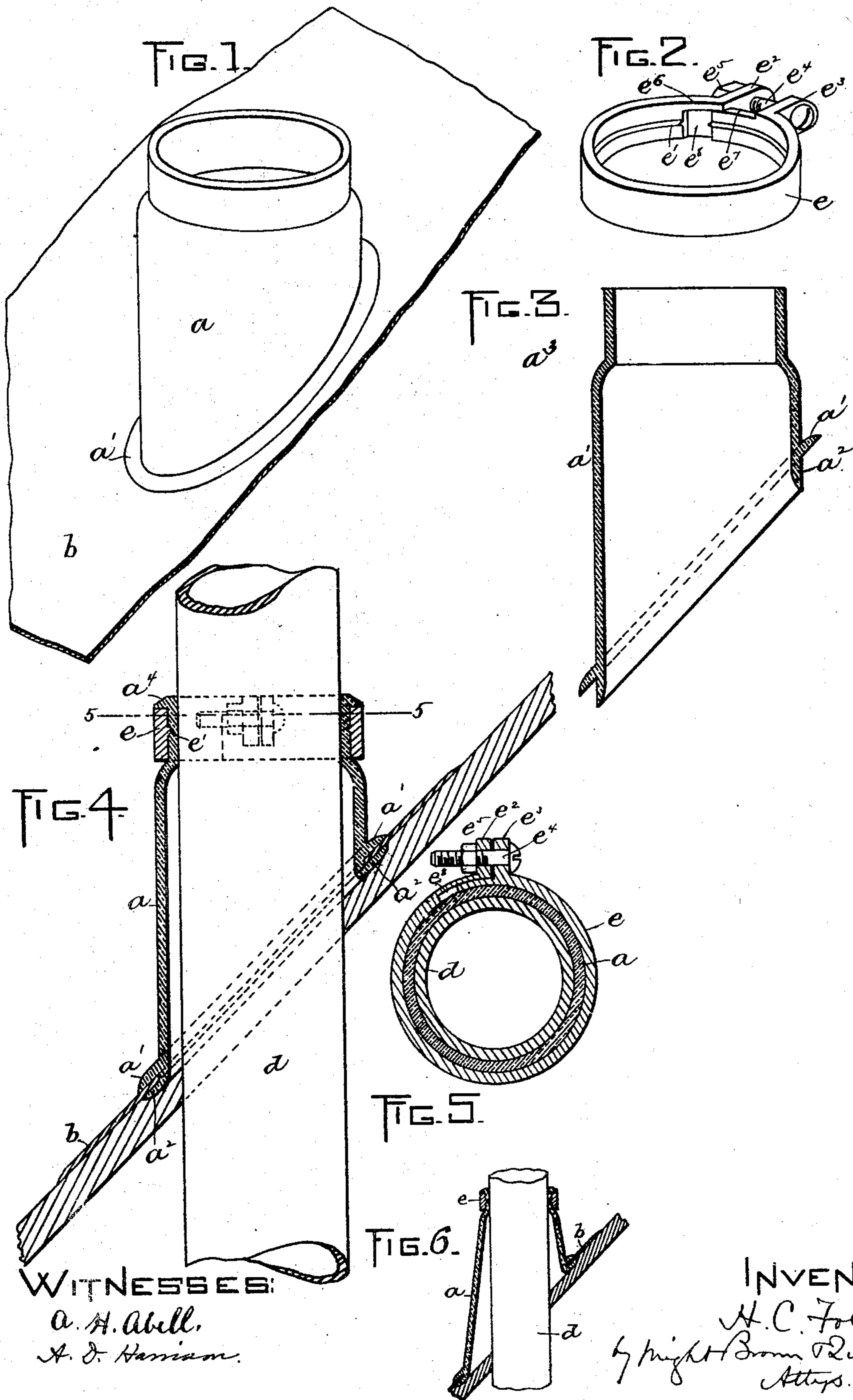


(No Model.)

H. C. FOLGER.
ROOF COLLAR.

No. 549,352.

Patented Nov. 5, 1895.



WITNESSES:

A. H. Abell,
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INVENTOR:

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UNITED STATES PATENT OFFICE.

HENRY C. FOLGER, OF SOMERVILLE, ASSIGNOR OF ONE-HALF TO HUBERT W. PIERCE, OF NEWTON, MASSACHUSETTS.

ROOF-COLLAR.

SPECIFICATION forming part of Letters Patent No. 549,352, dated November 5, 1895.

Application filed June 27, 1895. Serial No. 554,262. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. FOLGER, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Roof-Collars, of which the following is a specification.

This invention has for its object to provide improved means for forming a tight joint around a pipe, such as a ventilating or soil pipe or a steam-pipe, where it passes through the roof of a building.

The invention consists in the several improvements, which will be first described, and then pointed out in the claims.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of a collar and its flashing constructed in accordance with my invention. Fig. 2 represents a perspective view of the elastic binder which is applied to the upper portion of the collar. Fig. 3 represents a longitudinal section of the collar before it is secured to the flashing. Fig. 4 represents a sectional view showing the entire device applied to a pipe and to the roof of the building. Fig. 5 represents a section on the line 5 5 of Fig. 4. Fig. 6 represents a sectional view showing a collar of a somewhat different construction.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents a collar or tube, the lower end of which is formed to correspond to the roof to which it is to be applied, said ring being beveled for a pitch roof, as here shown, the bevel or inclination of said lower end being such that when the collar is in place on the roof it will stand in a substantially vertical position. For a flat roof the lower end of the collar would be at right angles with the length of the collar.

The collar *a* is made of lead or any other suitable malleable metal or alloy. The lower end of the collar is formed in such manner that it can be readily secured to a sheet of metal *b*, which is to rest upon the roof and be interposed between the roof and the shingles, said sheet being termed for the sake of convenience a "flashing." The preferred construction of the collar, whereby it is

adapted for attachment to the flashing, is that shown in Fig. 3, the collar being provided with an outwardly-projecting flange *a'* near its lower edge and being reduced in thickness below said flange to form a lip *a²*, adapted to be turned outwardly against the under side of the flashing *b*, the flange *a'* bearing on the upper side of said flashing *b*. The flashing *b* is provided with an opening formed to receive the lower end of the collar and to fit snugly against the flange *a'* thereof. After the insertion of the lower end of the collar into the opening in the flashing *b* the lip *a²* is turned outwardly, as shown in Fig. 4, and pressed firmly against the under side of the flashing *b*, the latter being thus grasped or clamped between the lip and the flange *a'*. I prefer to additionally secure the lip *a²* to the flashing *b* by a solder-joint.

The flashing *b* is laid upon the roof *c*, as indicated in Fig. 4, and supports the collar *a* in a substantially vertical position.

The soil-pipe *d* is passed through the collar and extends to any desired height above it. The upper end of the collar is contracted to form a neck *a³*, which approximately fits the exterior of the pipe *d*, the collar below said neck being preferably enlarged and tapered outwardly from the neck to the flange *a'*, this form enabling the collar to accommodate itself to the pipe and to various angles of inclination of the roof. In other words, the collar may occupy a somewhat inclined position while surrounding the vertical pipe *d*, and the degree of inclination of the collar may vary to a considerable extent, as may be necessitated by the pitch of the roof.

e represents a binder or clamp, which is secured to the upper portion of the collar *a* and is constructed to be contracted upon the collar and to press the latter closely against the external surface of the pipe *d*. The pressure thus created will be practically sufficient to form a water-tight joint between the collar and the pipe; but as an additional safeguard I locate the binder below the upper end of the collar, so that the binder will serve as an anvil and upset the upper end of the collar by hammering down or upsetting the portion of the collar that projects above the binder, thus compressing the metal of the collar be-

tween the binder and the pipe, this operation being equivalent to calking the joint between the collar and the pipe. A portion of the displaced metal is disposed in the form of a lip or flange a^4 upon the upper edge of the binder. To prevent the binder from slipping downwardly upon the collar during the upsetting or calking operation, I form the internal surface of said binder so that it will penetrate the collar, and thus lock itself thereto against downward movement. To this end an inwardly-projecting rib e' may be formed upon the binder, as shown in Fig. 4, or the binder may be constructed in any other suitable way to produce the desired result.

The binder e may be provided with any suitable means for contracting it around the collar. I have here shown the binder made in one piece, which may be made of any suitably elastic band metal and provided with ears $e^2 e^3$, which are connected by a screw-threaded bolt e^4 , having a nut e^5 , by which the binder may be contracted. One end of the binder is provided with a recess e^8 , along the upper edge of which extends a lip e^6 , which is a continuation of the inner bearing-surface of the binder. The other end of the binder is cut away at e^7 and formed to enter the recess e^8 . It will be seen that the described construction enables the binder to have a continuous bearing upon the collar, so that the binder supports the upset portion of the collar equally at all points, there being no interruption in the continuity of the binder. The binder thus constructed is adapted by its elasticity to conform closely to any slight irregularities on the pipe, and thus make a continuous tight joint around it.

The collar may be supplied independently in the condition shown in Fig. 3 as an article of manufacture, the flashing being applied subsequently by the plumber. I prefer, however, to supply the collar and flashing permanently connected as an article of manufacture.

It will be seen that the improved device, comprising the malleable collar, the flashing, and the binder, enables a tight joint to be formed around a pipe at the point where it emerges from the roof of a building with comparatively little labor and without the employment of molten metal, the operator

having only to secure the flashing to the roof in the proper position and then apply the binder and upset the projecting end of the collar, the latter operation being conveniently effected by an ordinary hammer.

The binder may be constructed in any suitable way to be contracted on the collar and thus bind it to the pipe, and said binder may be composed of wire having its ends twisted together. I do not limit myself, however, to the employment of a contractible binder, and may substitute therefor a continuous ring or band.

I claim—

1. A roof-collar comprising a malleable tube formed to encircle a pipe, a contractible elastic binder having a continuous bearing edge formed to encircle the tube, means for contracting the binder, whereby it may be clamped upon the tube to serve as an anvil on which the upper end of the tube is upset, and a sheet metal flashing secured to the lower end of the tube.

2. A roof-collar comprising a malleable tube, a sheet-metal flashing secured to the lower end of the tube, and an elastic binder embracing the upper portion of the tube, said binder having an internal rib to engage the tube and prevent downward movement thereon, the malleable tube being adapted and arranged to be headed down over said binder.

3. A roof-collar comprising a malleable tube having an outwardly projecting inclined flange near its lower end, the portion of the tube below said flange being formed as a lip adapted to be turned outwardly and confine a sheet-metal flashing against said flange.

4. A roof-collar comprising a malleable tube having an outwardly projecting flange at its lower portion, a thin lip below said flange, and a contracted neck at its upper portion formed to bear upon a pipe passing through said tube.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 21st day of June, A. D. 1895.

HENRY C. FOLGER.

Witnesses:

HUBERT W. PIERCE,
C. F. BROWN.