

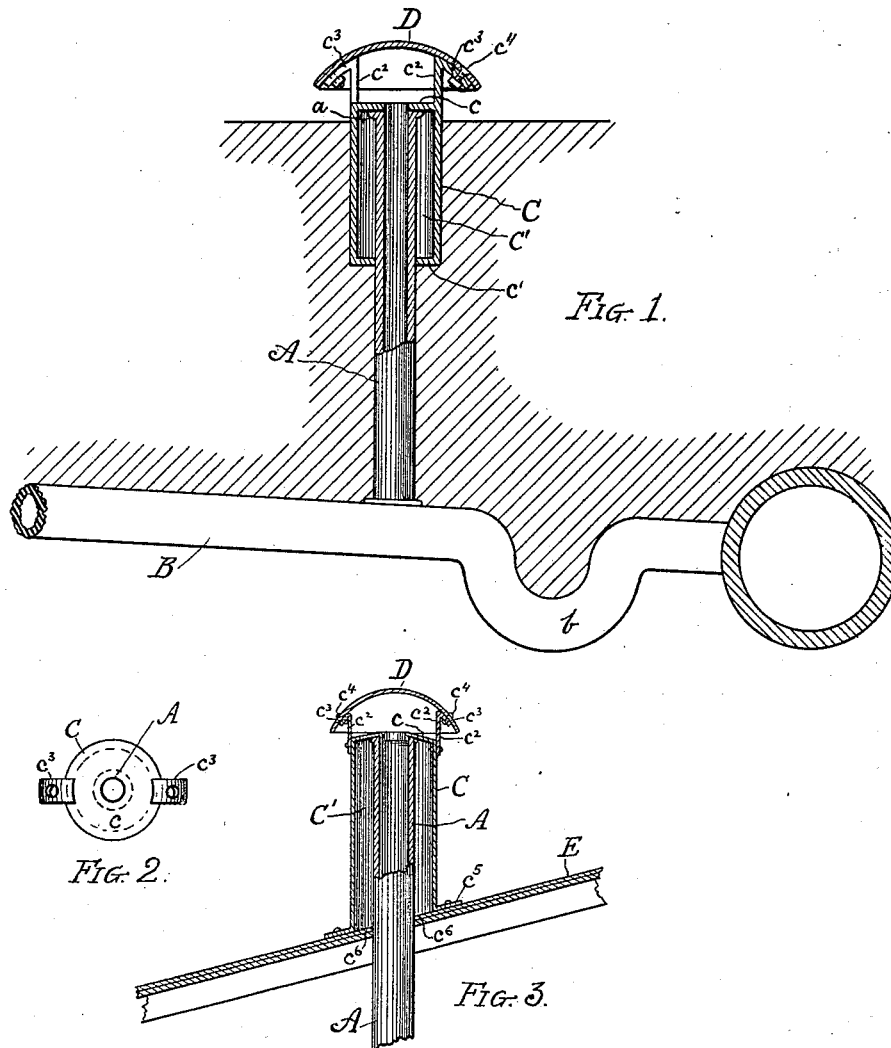
(No Model.)

T. C. BOYD.

FROST PROOF PROTECTOR FOR VENTILATION AND OTHER PIPES.

No. 346,714.

Patented Aug. 3, 1886.



Witnesses:  
J. B. Halpenny.  
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# UNITED STATES PATENT OFFICE.

THOMAS C. BOYD, OF CHICAGO, ILLINOIS.

FROST-PROOF PROTECTOR FOR VENTILATION AND OTHER PIPES.

SPECIFICATION forming part of Letters Patent No. 346,714, dated August 3, 1886.

Application filed March 29, 1886. Serial No. 196,879. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS C. BOYD, of Chicago, in the county of Cook and State of Illinois, have invented a certain new, useful, and Improved Frost-Proof Protector for Ventilation and other Pipes, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a view of a ventilating-pipe as applied to a house-drain, said pipe having my improved protector applied thereto, the two being shown in section. Fig. 2 is a plan view of said protector as applied to a ventilating-pipe, the hood being removed. Fig. 3 shows said protector as applied to a ventilating-pipe extended through a roof.

Like letters of reference designate corresponding parts in the different figures.

The purpose of my invention is to provide a simple and inexpensive means for preventing the accumulation of hoar-frost in ventilating-pipes, which purpose I accomplish in the manner hereinafter more particularly set forth and claimed.

In the drawings, A represents a ventilating-pipe, applied in the usual manner to a house-drain, B, near the sewer-trap *b*, located outside of the building. Inserted within the ground around said pipe A, I place a hollow cylinder, C, provided with interior annular flanges, *c c'*, at the top and bottom, respectively, the opening in the former being smaller than the outside diameter of the pipe A, while an annular bead, *a*, is formed upon the bottom of said flange. The opening in the flange *c'* is the same as the outside diameter of the pipe A. Thus the cylinder C may be placed around the exposed end of the pipe A, the flange *c* resting upon the top of said pipe, while the surrounding earth helps to sustain the same firmly in place.

The cylinder C is preferably cast in one piece when applied to the end of a ventilating-pipe; but when otherwise applied it may be made in sections, as hereinafter stated. In the former case I cause to be formed thereon or attached thereto two or more vertical standards or supports, *c<sup>2</sup>*, provided with laterally-extended lugs *c<sup>3</sup>*, to which may be attached, by means of bolts *c<sup>4</sup>*, a hood or cowl, D, of any suitable form. The flanges *c c'* are caused to fit closely around the pipe A, the joints being made tight by means of putty, cement, or lead, thereby forming a dead-air space, C', around

the pipe A, and thus protecting the latter from the action of frost.

Fig. 3 shows a modification of said construction, in which the cylinder C is provided with an outwardly-turned flange, *c<sup>5</sup>*, which is fitted closely to the roof E, which in turn is caused to fit around the pipe A, as at *c<sup>6</sup>*, thus taking the place of the flange *c'*. It is obvious that this form may be readily made from sheet metal and the parts bolted together, as clearly shown in the drawings.

I am aware that chimney-cowls and rain-proofs have been constructed with a surrounding cylinder or conical jacket open at one or both ends to permit a circulation of air around the pipe, as shown in patents to B. J. Goodsell, No. 70,993, and S. F. Atkin, No. 302,373, respectively. I am also familiar with the patents to Babcock, No. 240,497, and Brosius, No. 226,834, upon steam-boiler coverings, the special features of which I herein expressly disclaim.

What I do claim, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a ventilating-pipe, the upper or exposed end or portion of which is surrounded by an air-tight bulb or jacket of such size as to form an intermediate dead air chamber between said jacket and the exposed portion of said pipe, substantially as described, and for the purposes set forth.

2. The combination, with the exposed end of a ventilating-pipe, of an air-tight jacket, C, the respective ends of which are closed with tightly-fitting flanges, substantially as and for the purposes described.

3. The combination, with the exposed end of a ventilating-pipe, of a detachable air-tight jacket provided with tightly-fitting flanges *c c'*, substantially as and for the purposes set forth.

4. The combination, with the pipe A, of the cylinder C, provided with the flanges *c c'*, substantially as and for the purposes set forth.

5. As a new article of manufacture, the cylinder C, having flanges *c c'*, and means, as the supports *c<sup>2</sup>* and lugs *c<sup>3</sup>*, for attaching a cowl thereto, substantially as and for the purposes set forth.

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