

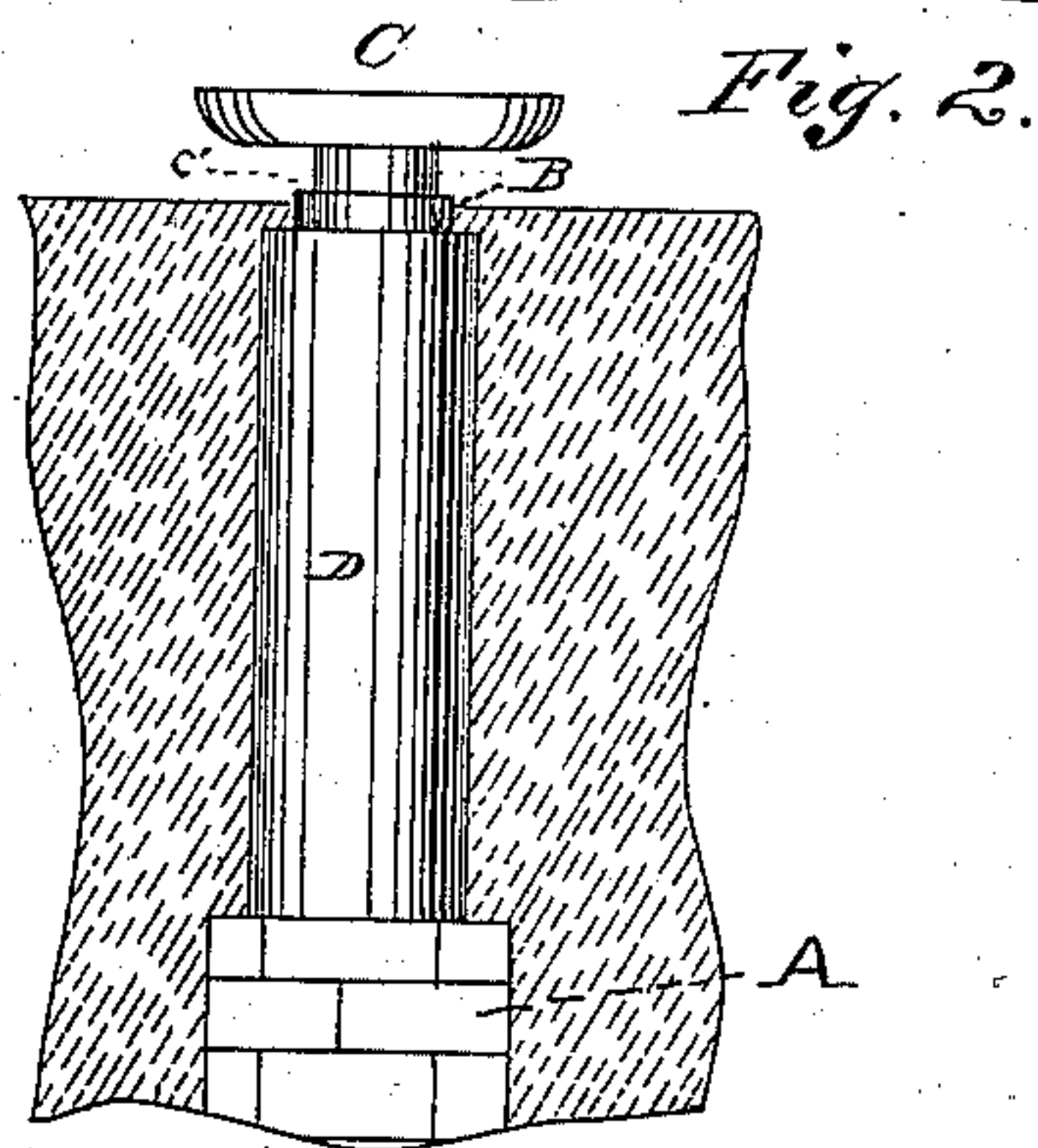
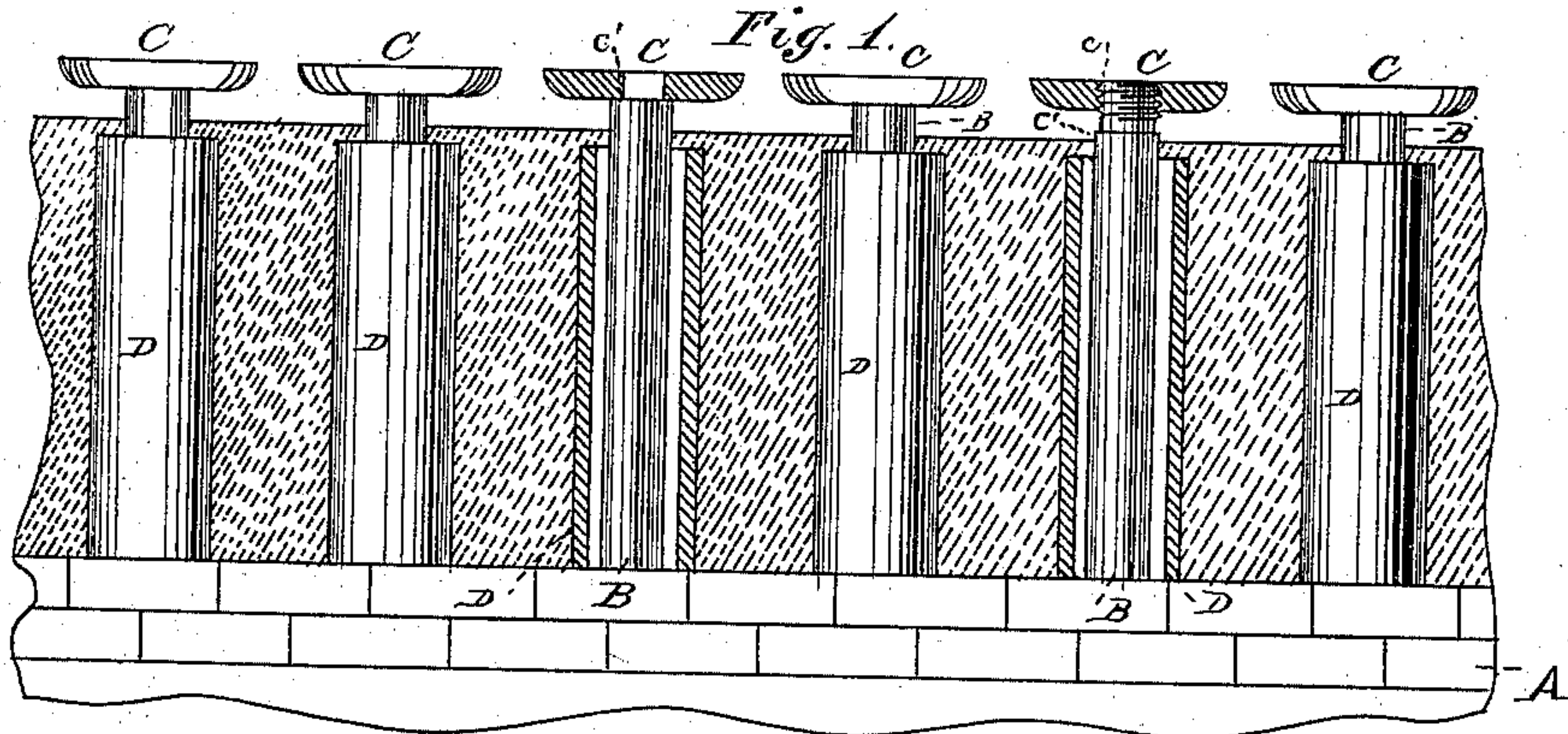
(No Model.)

H. H. MORGAN.

FROST PROTECTOR FOR FOUNDATIONS.

No. 385,278.

Patented June 26, 1888.



WITNESSES,
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UNITED STATES PATENT OFFICE.

HORACE H. MORGAN, OF KILLBUCK, NEW YORK.

FROST-PROTECTOR FOR FOUNDATIONS.

SPECIFICATION forming part of Letters Patent No. 385,278, dated June 26, 1888.

Application filed November 12, 1887. Serial No. 254,993. (No model.)

To all whom it may concern:

Be it known that I, HORACE H. MORGAN, a citizen of the United States, and a resident of Killbuck, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Frost-Protectors for Foundations; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a vertical longitudinal section of my improved frost-protector. Fig. 2 is a transverse section.

The invention relates to improvements in devices and the manner of protecting walls, abutments, posts, and kindred structures from the action of frost.

It is well known that at certain times the frost contained in the ground beneath a structure has an upward or "heaving" tendency, tending to the destruction or damage of the structure.

The object of my invention is to provide a means of protecting the wall or other structure from the direct action of the frost, which I accomplish by the device hereinafter described, and illustrated in the accompanying drawings.

In the drawings, A represents a stone or other solid foundation embedded in the earth below the possible frost-depth. Upon this foundation is vertically placed a post or hollow cylinder, B, reaching to or above the ground-surface.

C is a plate or nut of suitable material placed on the upper end of the post B. The plate C may be provided with an internal thread to engage the tapped upper end of the post B, as shown at *c*; or the post B may be provided with a circumferential shoulder, *c'*, as shown in the drawings, against which the lower face

of the plate C may abut. In the latter case the thread within the plate is not required. Upon the plate C the superstructure is to be placed in any manner best suited to the structure.

D is a hollow pipe or sleeve surrounding the post B and sufficiently large to leave a space between its interior wall and the post B. The pipe D rests upon the foundation A and extends upward to a point near the surface of the ground and somewhat below the plate C. This pipe D is designed to protect the foundation-post from the action of the frost, which it does in the following manner: When the earth or water which surrounds the hollow pipe D becomes frozen, and the work of the frost begins its operations of "heaving," as it is commonly called, which is in fact a steady irresistible force upward, the pipe D, being frozen to the ground, yields to the upward pressure and slides easily upward around the interior post, leaving the post intact.

The posts and protecting-sleeves may be placed at any distance apart.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a frost-protector, the combination, with the foundation A and the sliding sleeve D, resting on the foundation A, of the post B, provided with the circumferential shoulder *c'* and the plate-piece designed to fit thereon, substantially as specified.

2. In a frost-protector for foundations, the combination, with the foundation A, below the frost line, of the post B, having the threaded upper end, the plate C, having the threaded opening to engage the threads of the post, and the sleeve D, resting upon the foundation, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

HORACE H. MORGAN.

Witnesses:

P. B. COXE,

E. F. NORTON.