

(No Model.)

M. S. FOOTE.

Steam and Heat Conducting Pipe.

No. 234,015.

Patented Nov. 2, 1880.

Fig. 1.

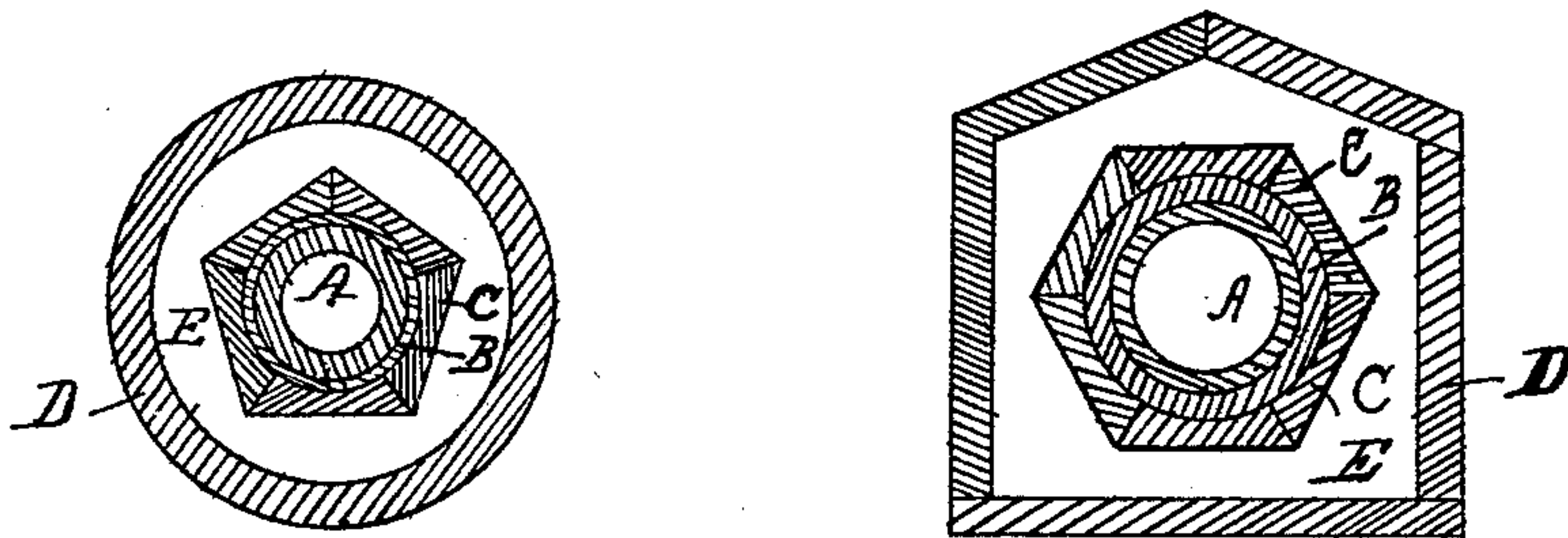
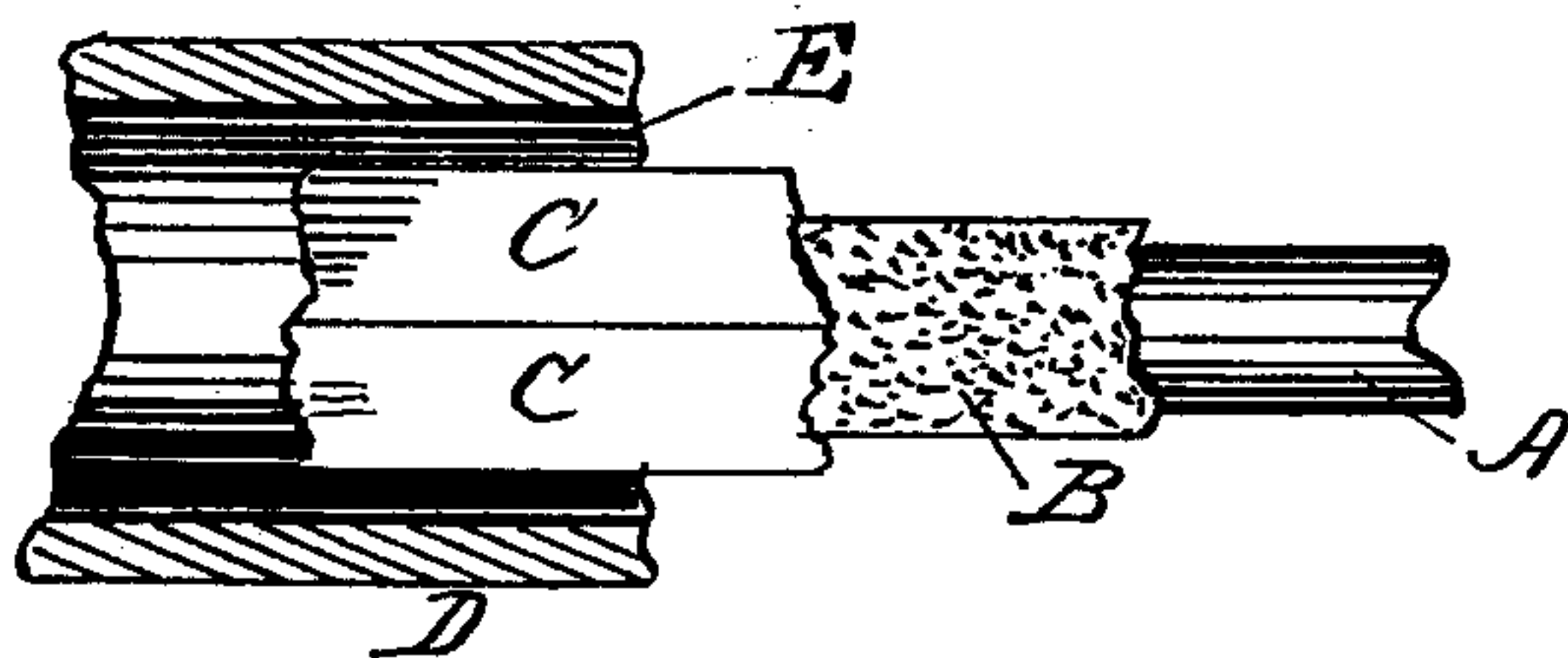


Fig. 2.



Witnesses.
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STEAM AND HEAT CONDUCTING PIPE.

SPECIFICATION forming part of Letters Patent No. 234,015, dated November 2, 1880.

Application filed July 13, 1880. (No model.)

To all whom it may concern:

Be it known that I, MARK S. FOOTE, of Burlington, county of Des Moines, State of Iowa, have invented a new and useful Improvement in Steam and Heat Conducting Pipes; and I do hereby declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to the conducting-pipes used for conducting heat—as, for instance, in steam-supply systems—the object being to form about a metallic pipe a covering which shall be an effective non-conductor of heat.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims. In the drawings, Figure 1 is a sectional view, and Fig. 2 a view partly in side elevation and partly in section, illustrating my invention.

I am aware that wood tubing in the form of staves has been employed for the purpose of covering and incasing metallic pipe in order to render it non-conducting; but in steam-supply systems where the temperature within the pipe is very high it is liable to char and disintegrate such wood tubing or staves. I propose, therefore, to first coat the pipe with three-quarters of an inch to one inch, (more or less,) of asbestos plaster, which, being an excellent non-conductor of heat, will materially relieve the outer covering of wood staves with which I surround the asbestos coating. In this manner, with a thin coating of asbestos and wood staves of suitable thickness, I can produce a pipe-covering which is at once cheap and very effectual as a non-conductor of heat.

To this end, A represents an iron pipe. B is a thin coating of asbestos plaster. C are wooden staves outside of the asbestos, which staves are bound upon the structure by any suitable means. The thin coating of asbestos separates the wood from direct contact with the iron heated pipe A, and the wood is able, without disintegration, to withstand the heat which passes through the asbestos coating. I propose, also, generally to treat the wood staves with some wood preservative, such as sulphate of iron, sulphate of copper, or other ingredient, though this is not an essential part of my invention, since by treating the wood in this manner its non-conductive properties

might be somewhat impaired. So, also, where the heat is very great the wood may also be treated to render it incombustible—as, for instance, with a solution of alum or with soluble glass. These staves may be arranged in any convenient form, so as to leave the exterior either round or polygonal, and if polygonal it may be so made that one of the angles shall project upward so as to form a water-shed, as would be the case with all polygonal forms having an odd number of sides—such, for instance, if composed of five devices—so as to make the cross-section a pentagon. This pipe is especially adapted for underground works, such as are used in steam-supply systems.

This construction may be employed alone; but I prefer, generally, to lay the compound pipe so constructed within an exterior casing of wood or any other suitable material—such, for instance, as large earthen pipes, tubular or other tiling, &c., the outer casing being preferably of such a nature as to keep the interior air-spaces dry. Such an exterior casing is represented at D and the air-space at E.

What I claim is—

1. A steam or heat conducting pipe consisting of an interior metallic pipe having a thin coating of asbestos plaster applied directly to its outer surface, and a covering composed of wooden staves treated with a wood-preserving preparation secured around the asbestos coating, substantially as set forth.

2. A steam or heat conducting pipe consisting of a central metallic pipe provided with a thin coating of non-conducting plaster, and that covered upon the exterior with an odd number of wooden staves, whereby an angle may be presented upward at the center and form a water-shed, substantially as described.

3. A steam or heat conducting pipe consisting of an interior metallic pipe, a coating of asbestos or other non-conducting plaster, surrounded with wooden staves, and the whole incased within an exterior casing of wood, earthen pipe, or tiling, with an air-space between the exterior casing and the staves, substantially as and for the purposes described.

In testimony whereof I sign this specification in the presence of two witnesses.

MARK S. FOOTE.

Witnesses:

GILBERT BLISS,
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