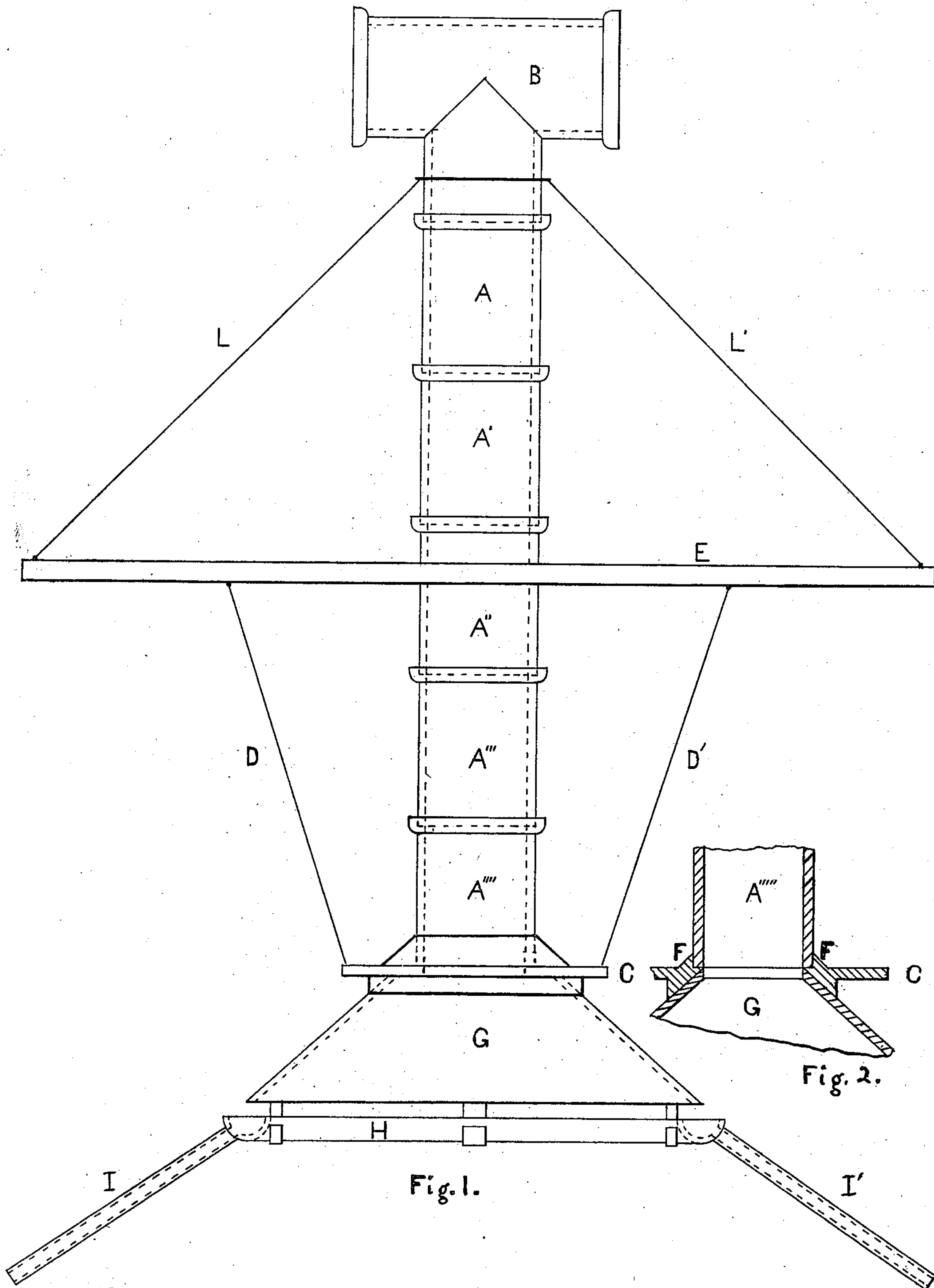


A. STAPLES.
Smoke Stack.

No. 230,673.

Patented Aug. 3, 1880.



Witnesses.
Irving S. Porter,
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UNITED STATES PATENT OFFICE.

ARTHUR STAPLES, OF LOWELL, MASSACHUSETTS.

SMOKE-STACK.

SPECIFICATION forming part of Letters Patent No. 230,673, dated August 3, 1880.

Application filed January 10, 1878.

To all whom it may concern:

Be it known that I, ARTHUR STAPLES, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented a new and useful Improvement in Smoke-Stacks for Taking the Smoke of Locomotive Steam-Engines in Engine-Houses, of which the following is a specification.

My invention consists in the combination of the tubing, the hood, and the ring, as hereinafter described.

Figure 1 is a perspective view of my invention attached to the roof of an engine-house; and Fig. 2 is a sectional view of a part of the tube, ring, and hood.

A A' A'' A''' A'''' represent sections of burnt-clay tubing, each section being flanged at the top to receive the lower end of the section next above, as shown, the continuous tubing thus formed being surmounted by a suitable cap, B, and resting upon the ring C. Said ring is supported by metallic rods D attached to the roof E of the engine-house, is of cast-iron, and of the form shown in Fig. 2, and is provided on top with the flange F, near its inner edge. Said flange F surrounds the bottom of the lower section of tubing, A''''', and holds said section in its place upon the ring. The under side of the ring C is beveled downward and outward to receive the conical hood G, the latter being secured by bolts to said ring. This hood is formed of cast-iron, and is best made in radial sections fastened together by bolts, rivets, or otherwise. Below said hood are the usual annular gutter H and

the conductor-pipes I I', to receive and carry away the moisture which condenses in the tubing and hood and drips from the lower edge of the latter. L L' are guys.

The tubing, as above stated, and the hood are usually constructed of wrought-iron, and are so corroded by the acids generated by the burning of wood and soft coal that they are useless in a short time—say in two or three years. These acids will not, however, produce any effect upon the clay tubing, while the hood above described, being of cast-iron, is much less affected by said acids and will last much longer than if made of wrought-iron, and the hood being in sections, one or more of the sections can be removed and a new one substituted without destroying or taking down the entire hood.

The first cost of a stack constructed by my method is much less than that of the ordinary stack, and parts of it are absolutely incorrodible by the acids to which it will be subjected in use. Besides, the wrought-iron stack ought to be painted twice a year, and is usually painted when first put up and as often as once a year thereafter; but mine needs no painting at any time.

I claim as my invention—

The combination of the tubing A A' A'' A''' A''', the hood G, and the ring C, as and for the purpose specified.

ARTHUR STAPLES.

Witnesses:

ALBERT M. MOORE,
IRVING S. PORTER.