

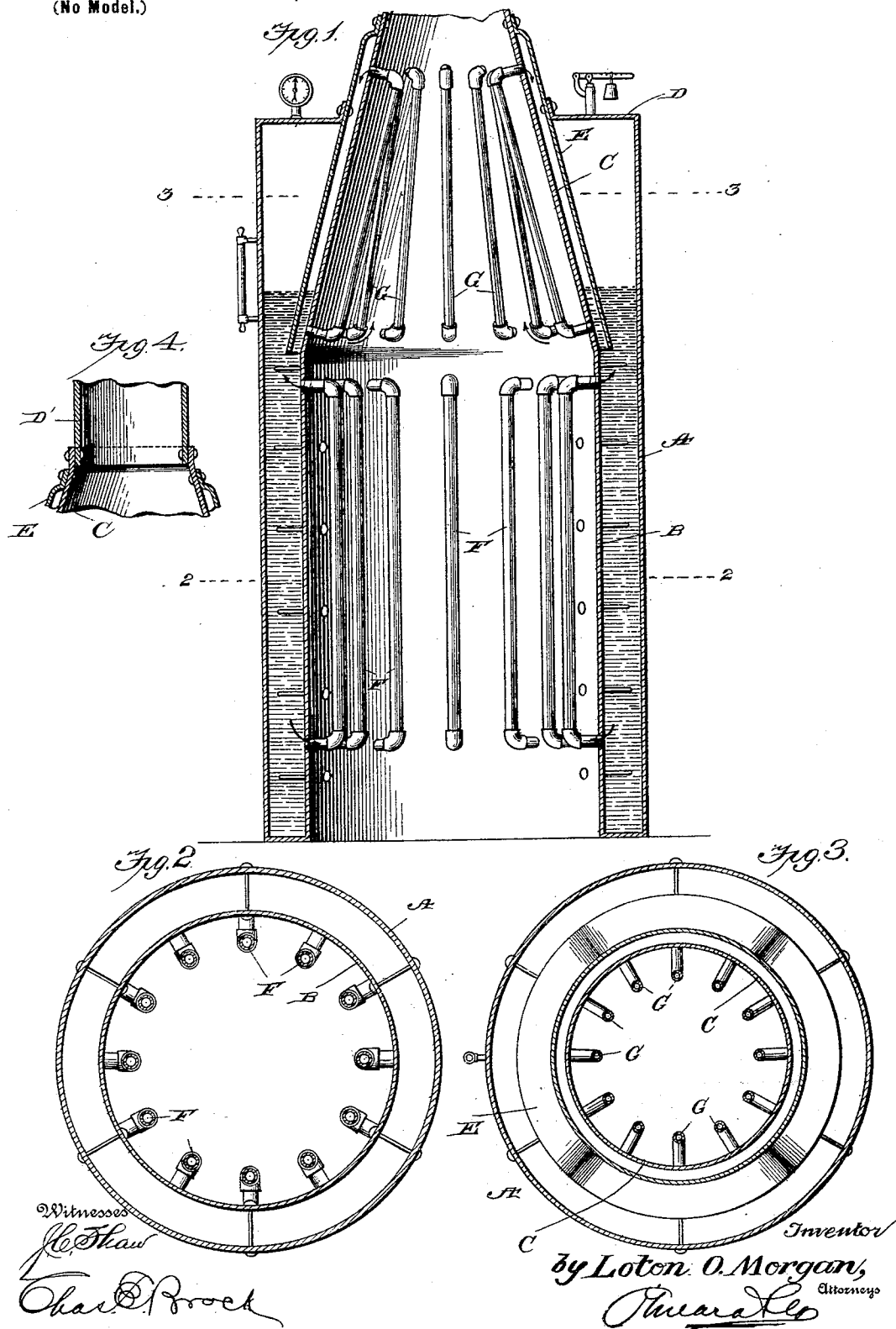
No. 623,170.

Patented Apr. 18, 1899.

L. O. MORGAN.
STEAM BOILER.

(Application filed June 6, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

LOTON OSCAR MORGAN, OF WILLIAMSPORT, OHIO.

STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 623,170, dated April 18, 1899.

Application filed June 6, 1898. Serial No. 682,741. (No model.)

To all whom it may concern:

Be it known that I, LOTON OSCAR MORGAN, a citizen of the United States, residing at Williamsport, in the county of Pickaway and State of Ohio, have invented a new and useful Steam-Boiler, of which the following is a specification.

This invention relates to improvements in steam-boilers; and the object thereof is to provide a boiler dispensing with flues and having an increased heating-surface and in which a perfect circulation is effected and by the use of which steam may be more quickly generated with the expenditure of less fuel than in boilers now in general use.

With the above object in view the invention consists of an outer shell, an inner shell constituting the fire-pot and having a conical upper portion projecting above the head of the outer shell, and a plurality of pipes secured upon the interior of the inner shell and arranged in a lower and an upper series and communicating at their respective ends with the space between the two shells.

The invention consists in the novel details of construction hereinafter fully described in the specification, particularly pointed out in the claim, and illustrated by the accompanying drawings, in which—

Figure 1 is a vertical sectional view of my improved boiler. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of the same figure. Fig. 4 is a sectional detail view showing the connection of the smoke-stack with the conical shell.

Referring now more particularly to the accompanying drawings, A designates the outer shell, and B the inner shell, having the conical upper portion C projecting through the head D of the outer shell and having the smoke-stack D' connected thereto, as clearly illustrated. Secured about said conical portion C at a point above the outer shell is a hood or auxiliary shell E, which extends down-

wardly within the outer shell and terminates at the lower end of the conical portion C, thus forming a chamber or space around the conical portion, which chamber is open at its lower end.

Positioned upon the interior of the inner shell is a plurality of vertical pipes F, which communicate at their respective ends with the chamber formed between the inner and outer shells or boiler, and secured in the conical portion C is a similar series of pipes G, which communicate at their respective ends with the chamber formed between the outer surface of the conical portion and the hood E, the upper ends of the pipes communicating therewith at a point above the head D of the outer shell.

From the above construction it will be seen that an increased heating-surface is provided through the medium of the conical portion extending through the outer shell, and also a better circulation is secured through the medium of the two series of pipes.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a steam-boiler, the combination with an outer shell, of an inner shell positioned therein and projecting through the head thereof, an auxiliary shell secured about said inner shell at a point outside of the outer shell, and extending into the latter, a plurality of pipes arranged within the inner shell and communicating at their respective ends with the water-chamber formed between said shells, and a second series of pipes arranged in said inner shell above the first series and communicating at their respective ends with the chamber formed between said inner shell and auxiliary shell, substantially as described.

LOTON OSCAR MORGAN.

Witnesses:

G. P. HUNSICKER,
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