

No. 744,043.

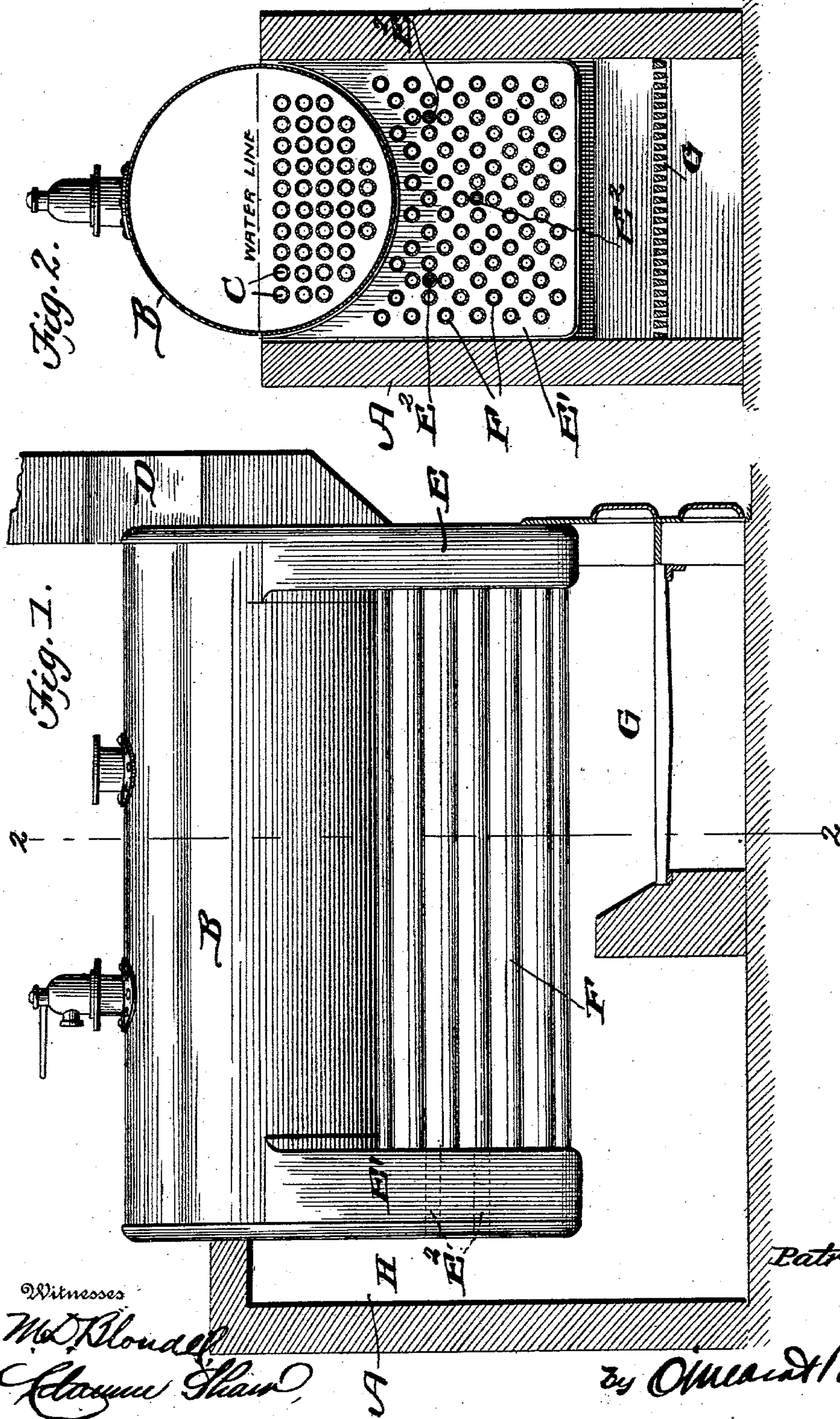
PATENTED NOV. 17, 1903.

P. BURK.
STATIONARY STEAM BOILER.

APPLICATION FILED FEB. 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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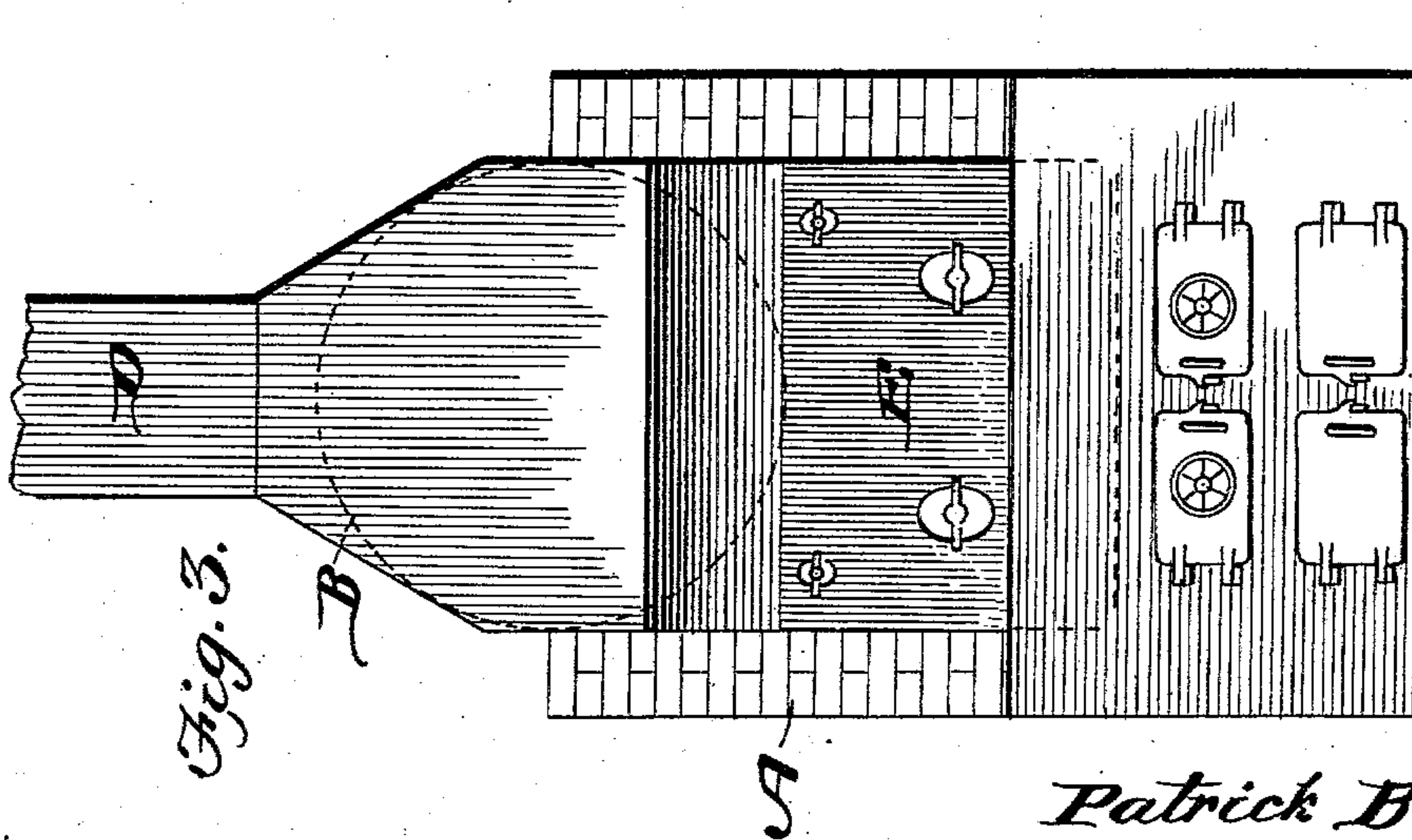
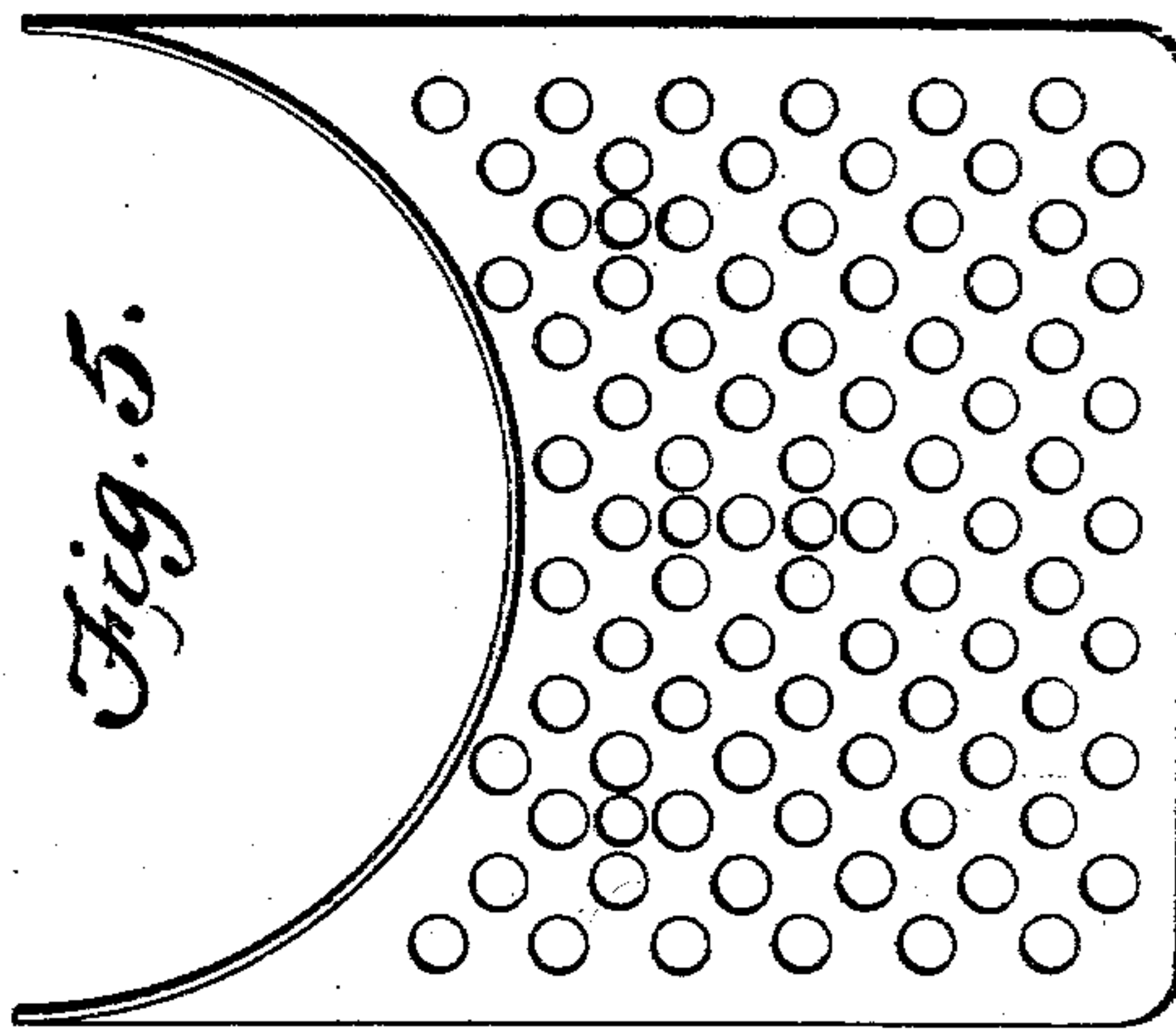
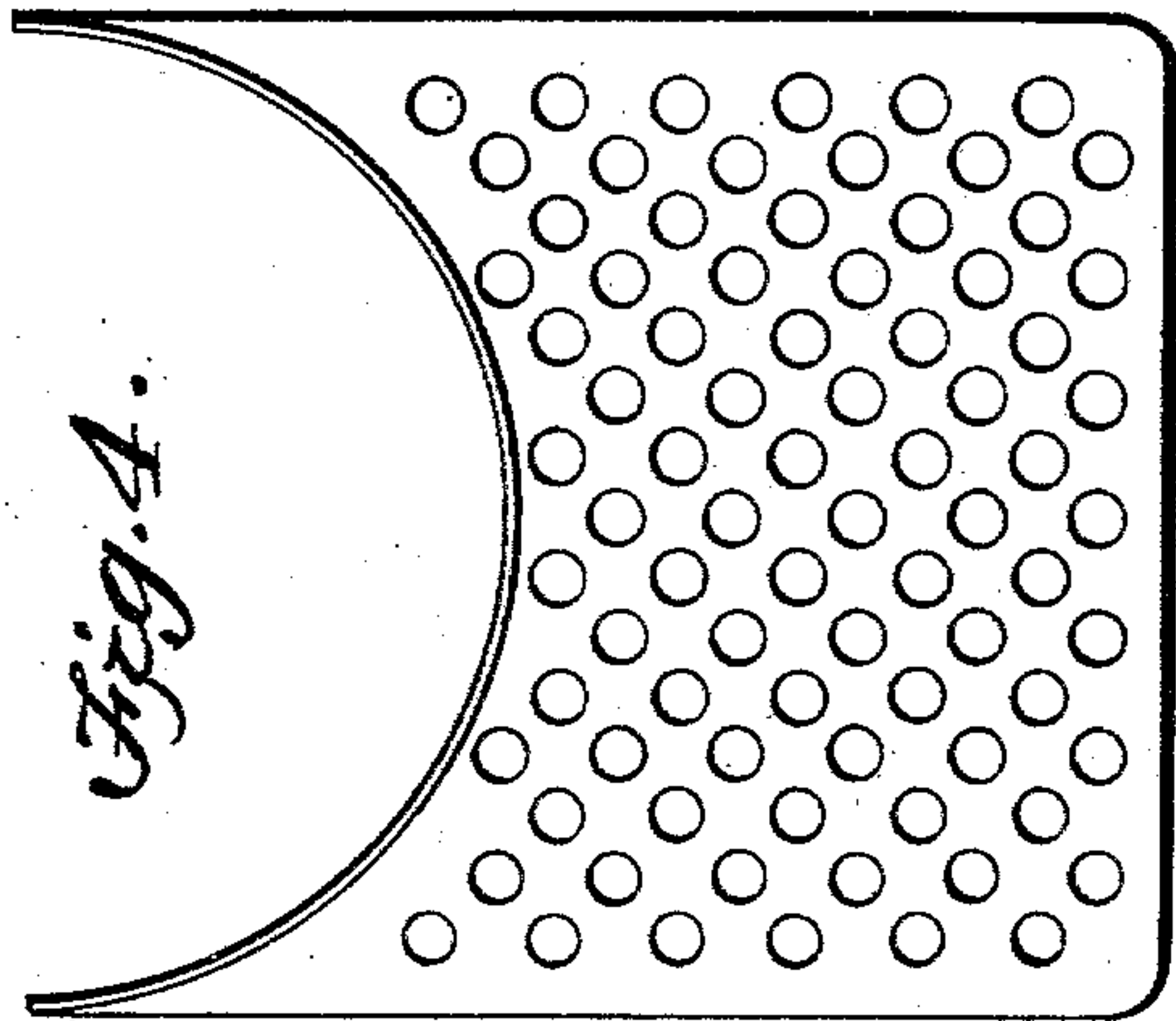
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UNITED STATES PATENT OFFICE.

PATRICK BURK, OF CANTON, OHIO.

STATIONARY STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 744,043, dated November 17, 1903.

Application filed February 4, 1903. Serial No. 141,878. (No model.)

To all whom it may concern:

Be it known that I, PATRICK BURK, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have
 5 invented a new and useful Improvement in Stationary Steam-Boilers, of which the following is a specification.

This invention relates generally to steam-boilers, and more particularly to that class
 10 thereof known as "stationary" boilers; and the object of the present invention is to provide an improved construction of boiler in which all of the heat units can be utilized and the maximum effect produced upon the water
 15 to be heated.

Another object of the invention is to provide a stationary boiler which shall be simple and efficient in construction and one in which the various parts are not likely to become im-
 20 paired or get out of order.

With these objects in view the invention consists in the novel features of construction, combination, and arrangement, all of which will be fully described hereinafter, and pointed
 25 out in the claim.

In the drawings forming part of this specification, Figure 1 is a side elevation of a boiler constructed in accordance with my invention, the furnace being shown in section. Fig. 2 is
 30 a transverse vertical section on the line 2 2 of Fig. 1. Fig. 3 is a face view of the furnace with the boiler arranged therein and showing the front face of said boiler. Fig. 4 is a detail view of the front leg of the boiler. Fig.
 35 5 is a detail face view of the rear leg of the boiler.

Referring to the drawings, A indicates the ordinary boiler furnace or setting in which the boiler B is arranged, said boiler having a
 40 series of fire-tubes C extending therethrough.

D indicates the ordinary smoke-stack, adapted to carry off the products of combustion after they have passed through the fire-
 45 tubes of the boiler.

E indicates the depending water-leg connected to the boiler at the forward end, and E'

indicates the depending water-leg connected to the boiler at the rear end, said water-legs E and E' being connected by a series of water-tubes F', which are arranged in alternate
 50 series, so that the products of combustion arising from the grate G will have a tortuous passage in passing between or among these water-tubes. Each of these water-legs has
 55 straight vertical side walls which bear against the sides of the setting A, thus preventing products of combustion passing around the sides of the water-legs. In the case of the water-leg E' this compels the products of combustion to pass either under or through the
 60 water-leg to reach the chamber H. The rear leg E' has a limited number, preferably three, of fire-tubes E², passing therethrough and through which the same products of combustion
 65 pass after passing upwardly between the water-tubes F, and these products of combustion commingle in the smoke-chamber H with the other products of combustion and then pass through fire-tubes C into the smoke-stack
 70 D. The front plate of the front water-leg E and the rear plate of the rear water-leg E' are provided with suitable hand-holes, so that access
 75 can be had to the interior of the said water-legs whenever desired. Whenever it is found necessary, a baffle-plate may be arranged upon the bridge-wall for the purpose of directing
 80 the products of combustion upwardly among the water-tubes F.

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

The combination with a boiler and boiler-setting, of vertical, depending water-legs, the sides of same bearing against the inner sides of the setting, water-tubes in the boiler, a
 85 smoke-chamber in the rear of the rear water-leg, and fire-tubes through said water-leg opening into the smoke-chamber.

PATRICK BURK.

Witnesses:

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