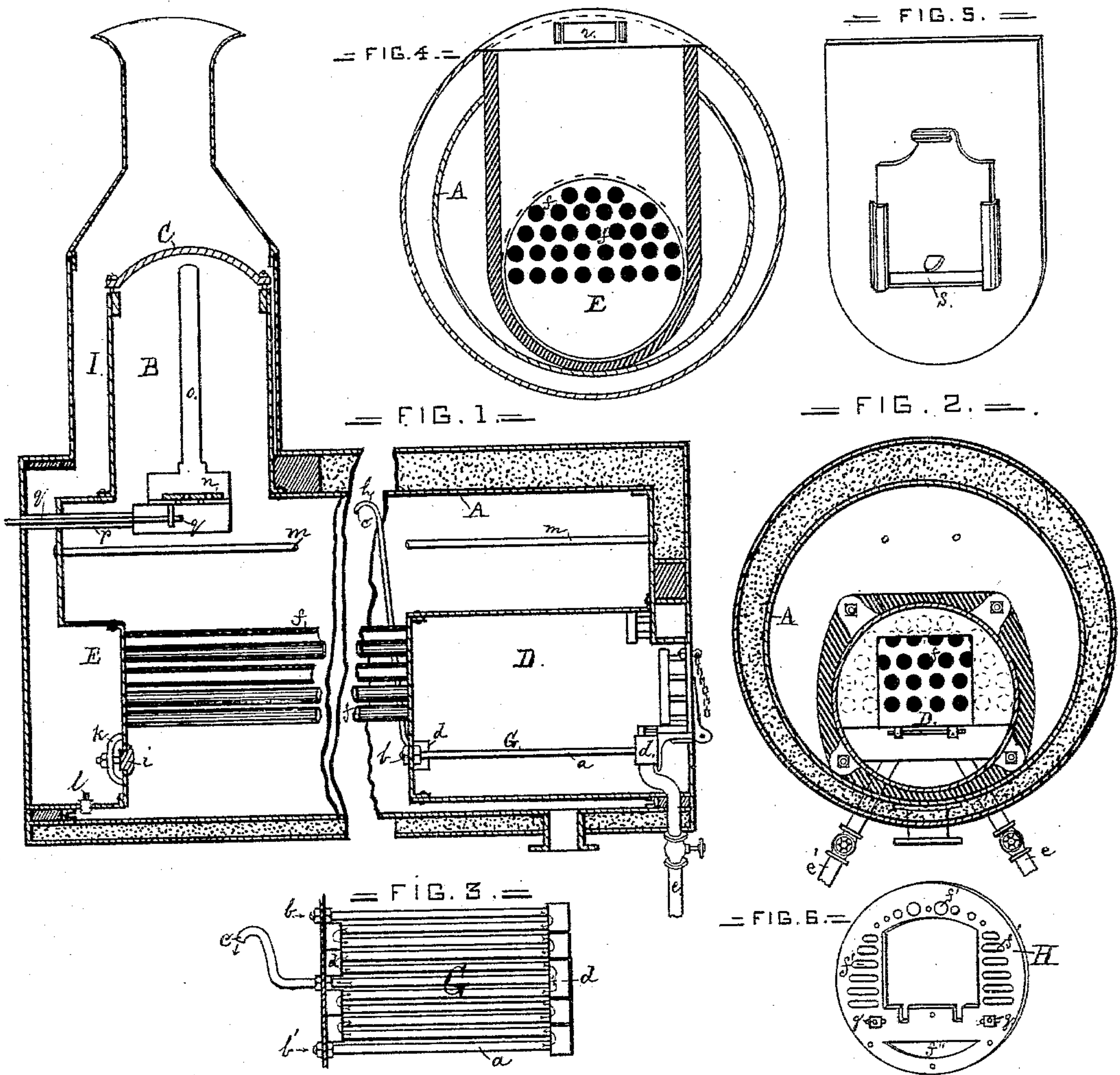


(No Model.)

J. DAHMER.  
BOILER.

No. 300,578.

Patented June 17, 1884.



WITNESSES.

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

JOHN DAHMER, OF NEW ORLEANS, LOUISIANA.

## BOILER.

SPECIFICATION forming part of Letters Patent No. 300,578, dated June 17, 1884.

Application filed March 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DAHMER, a resident of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a certain new and useful Improvement in Steam-Boilers; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawings, making a part of this specification.

This invention provides for the saving of fuel by the retention of heat within boilers, and it permits of the cleaning of all parts of boilers whenever the same may be deemed necessary.

My improved boiler may be made of any desired form or size, and is adapted for use either as a stationary or portable boiler. It is, however, more especially adapted for locomotives, dummies, and pleasure-boats, for the reason that no heat, smoke, or offensive smell escapes therefrom; but my invention will be more readily understood by referring to the accompanying drawings, on which—

Figure 1 represents a longitudinal section of my improved boiler. Fig. 2 is a cross-section thereof; Fig. 3, a top view of the grate or fire-bed; Fig. 4, the rear end of boiler with cover removed; Fig. 5, cap to go over portion of same, and Fig. 6 a cap or cover for the forward end of the boiler.

A is the boiler proper, having a steam-drum, B, which is provided with a detachable cast-iron cover, C, of sufficient size to admit of a man or boy passing through the same to the inside of the boiler. The boiler-heads are cut out to receive a circular fire-box, D, and smoke-box E, both of which are provided with tube-sheets for the reception of the tubes *f*.

In the fire-box is fitted a water-grate, G—that is to say, a grate formed of pipes *a*, having inlet and discharge openings *b*, *b'*, and *c*, and return-connections *d*, so as to insure a flow of water through the same. This grate is also provided with blow-off valves *e e'*, for cleaning out the same.

Over the fire-box end of the boiler is fitted a cover or cap, H, having draft-holes *f' f''*. This cap can be raised or lowered, and thus regulate the passage of air through the openings thereof, by means of thumb-nuts, as at *g*.

The discharge from the grate-pipes is carried up to a point near the crown-sheets of the boiler, as shown at *h*.

In the smoke-box is a hand-hole, *i*, provided with suitable cover, *k*. This hole is on a line with the grate and admits of the passage of a socket-wrench, whereby the nuts which serve to secure the grate can be unscrewed, thus allowing the grate to be withdrawn for purposes of cleaning or repairing the same.

In the bottom of the smoke-box is a screw-plug, *l*, the withdrawal of which permits of the cleaning of the space beneath the same.

The boiler may be provided with any desired number of braces, as at *m*, and a valve, *n*, is located near the base of the steam-drum, with pipes *o* projecting upward in the latter to a point near the top thereof, also a pipe, *p*, with interior operating-rod *q* projecting through the rear end of the boiler, so as to supply the engine with steam. The whole of this combination is surrounded by a casing of wood and iron, with space between same and boiler of about two inches at the bottom and five inches at the top. This space, with the exception of certain parts hereinafter mentioned, is filled in with cotton-seed hulls or other non-conducting material, and the parts immediately around the fire-door and smoke-box with asbestos or other suitable non-conducting material.

The steam-drum is surrounded by a smoke-jacket, I, in order that the heat from the smoke may serve in a manner to superheat the steam before it is admitted to the engine.

The openings *r* and *s* permit of the cleaning of the flues and crown-sheets of the rear portion of the boiler.

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

The combination, in a steam-boiler, of the fire-box D and smoke-box E, the fire-box provided with a water-grate, G, which is adapted to be secured in position by means of nuts, as described, and the smoke-box provided with a covered opening, *i*, for the admission of a socket-wrench, whereby the said grate can be disconnected at will, substantially as and for the purpose set forth.

In testimony whereof I hereunto sign my name.

JOHN DAHMER.

In presence of—

P. J. FINNEY,  
JOS. C. HODGSON.