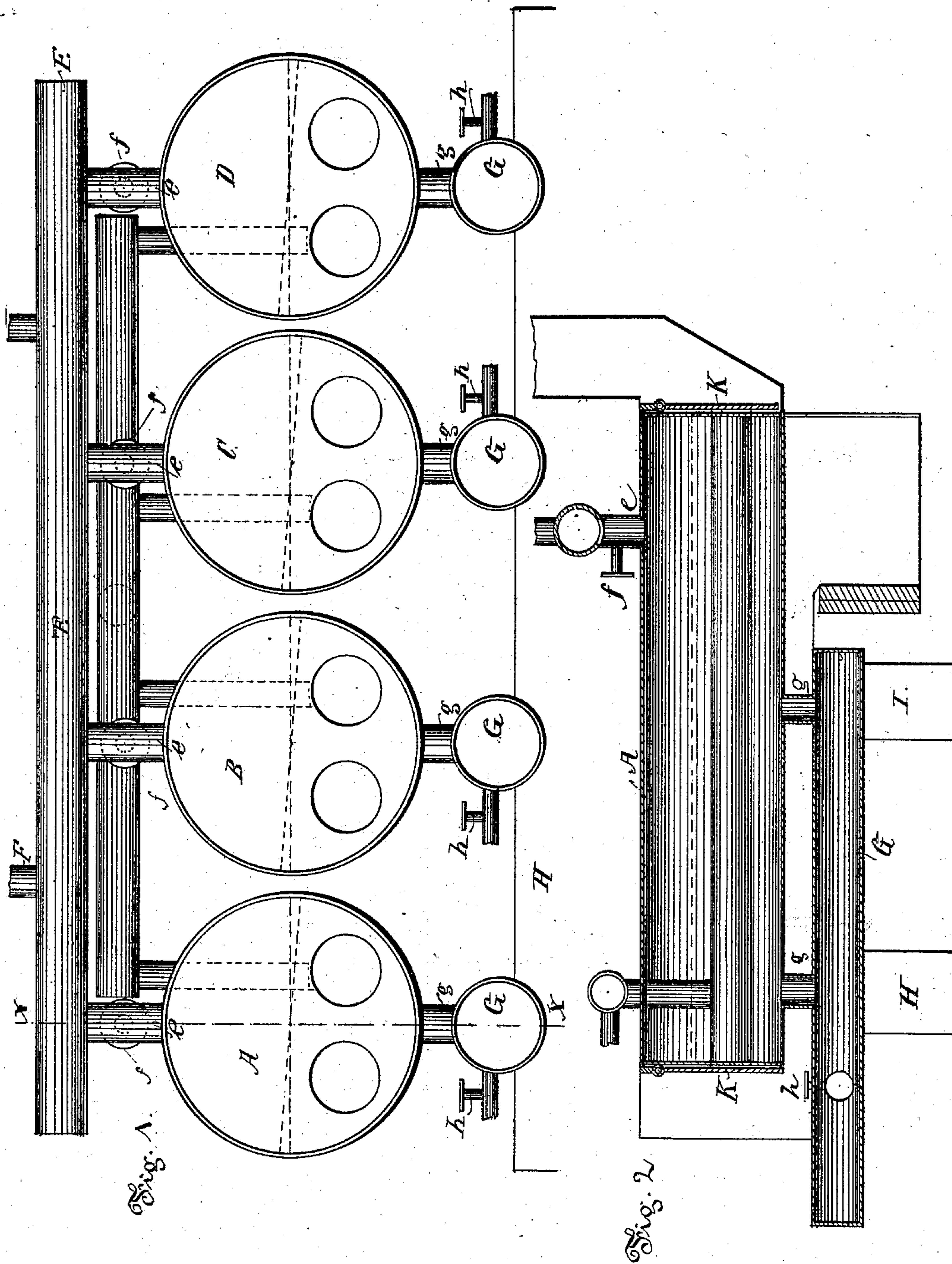


(No Model.)

F. FUNKE.  
MARINE STEAM BOILER.

No. 269,041.

Patented Dec. 12, 1882.



WITNESSES:

Ad. G. Dietrich.  
Wm. Secher

INVENTOR.

INVENTOR.  
Ferdinand Funke  
by Louis Bagger & Co.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

FERDINAND FUNKE, OF EVANSVILLE, INDIANA.

## MARINE STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 269,041, dated December 12, 1882.

Application filed August 18, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND FUNKE, of Evansville, in the county of Vanderburg, in the State of Indiana, have invented certain new and useful Improvements in Marine Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a front elevation of a set of marine steam-boilers of my improved construction, and Fig. 2 is a longitudinal section through one of the boilers on line *x x* in Fig. 1.

Similar letters of reference indicate corresponding parts in both the figures.

My invention has relation to steamboat-boilers adapted to boats where more than one boiler is used for generating steam. By the old method, as commonly practiced in river boats, the several boilers are connected not only by a common steam-drum and common steam-pipe, but also by what is known as the "mud-drum," in which the sediment is collected. The mud-drum connecting the several boilers acts as a conduit from one boiler to another in the series, so that when the boat is rocked or tilted the flues in the boiler on the highest level are apt to be laid bare. This is a fitting and dangerous source of explosions, inasmuch as the flue or flues when not covered by water are apt to collapse by overheating. Hence the object of my improvement is to so construct and arrange the boilers that the water in one cannot escape into any other boiler in the set or series.

In the present illustration of my invention I have shown a set of four steamboat-boilers, designated respectively by the letters A, B, C, and D. E is a steam-drum, which connects with the several boilers by short tubes *e*, thus re-

ceiving the steam from all of them, which is fed to the cylinder of the engines through the steam-pipes F. Underneath each boiler, and connected to each bottom by the short vertical pipes *g g*, is the mud-drum or sediment-collector G, which is provided with a blow-off valve, *h*. Thus it will be seen that each boiler has its separate mud-drum, the several drums being arranged parallel to one another between the walls H and I, upon which the set or series of boilers is supported. Each boiler is provided with a separate shutter or damper, K, for the purpose of shutting off draft from the flues when desired.

If through any cause it is desired to throw any one of the boilers out of action, this may readily be effected by closing the valve *f* in its steam-pipe *e*, placing the shutter or damper K in position, as shown in Fig. 2, and opening the blow-off valve *h*, when repairs or other work may be done to the boiler without interfering with the other boilers.

I am aware of the Patent No. 228,783, of 1880, and the construction therein set forth is not sought to be covered in this application.

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

In marine steam-boilers, the combination of a series of boilers, each provided with its separate mud-drum G, having blow-off valve *h*, and connected with a common steam-drum, E, by pipes *e*, provided with cut-off valves *f*, with the shutters K, adapted to shut off the draft from each boiler separately, substantially as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

FERDINAND FUNKE.

Witnesses:

AUGUST GLESIGE,  
LOUIS RITT.