

No. 637,701.

Patented Nov. 21, 1899.

H. BLESSINGER.
WATER TUBE BOILER.

(Application filed May 26, 1899.)

(No Model.)

Fig. 2.

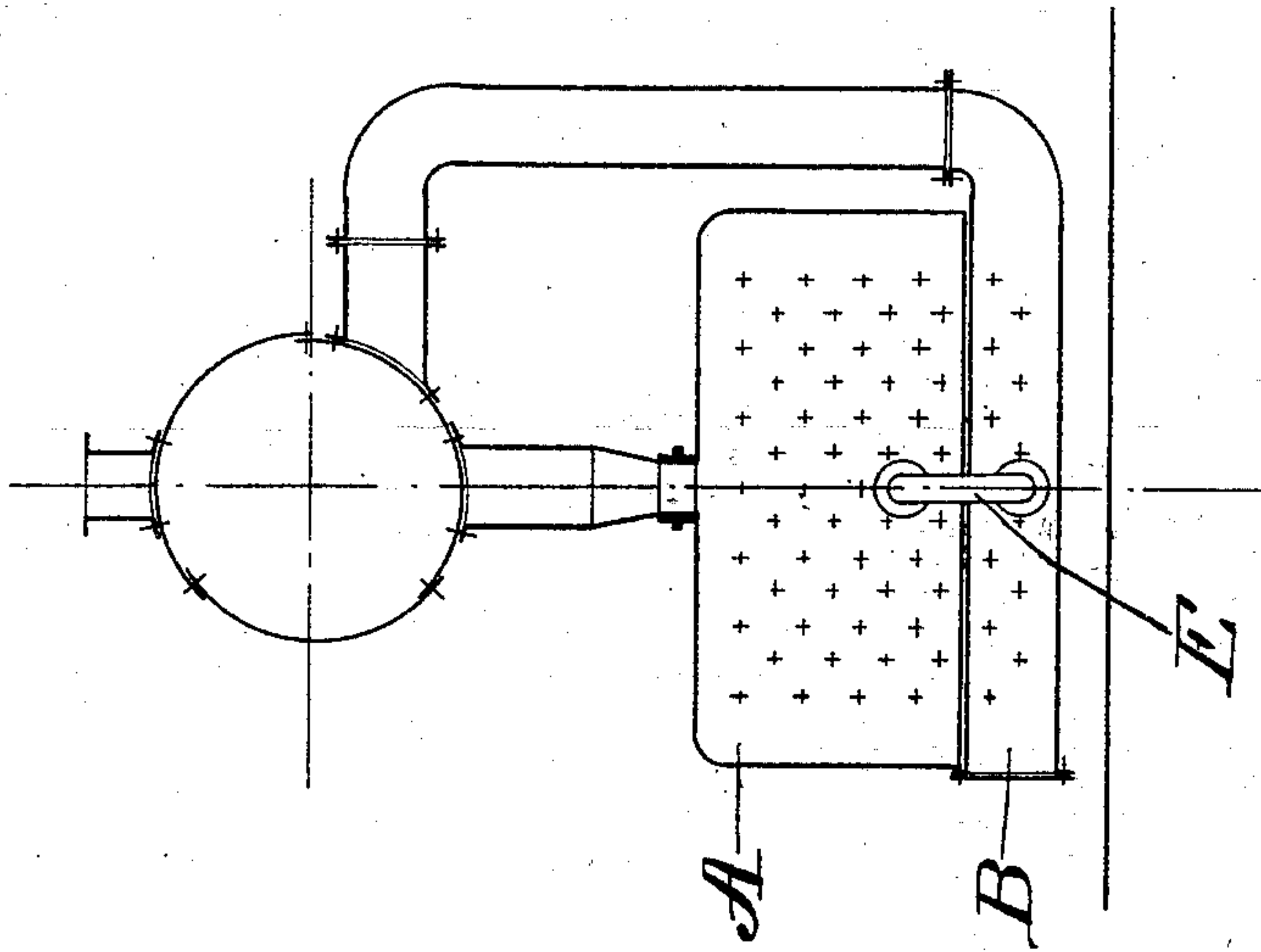
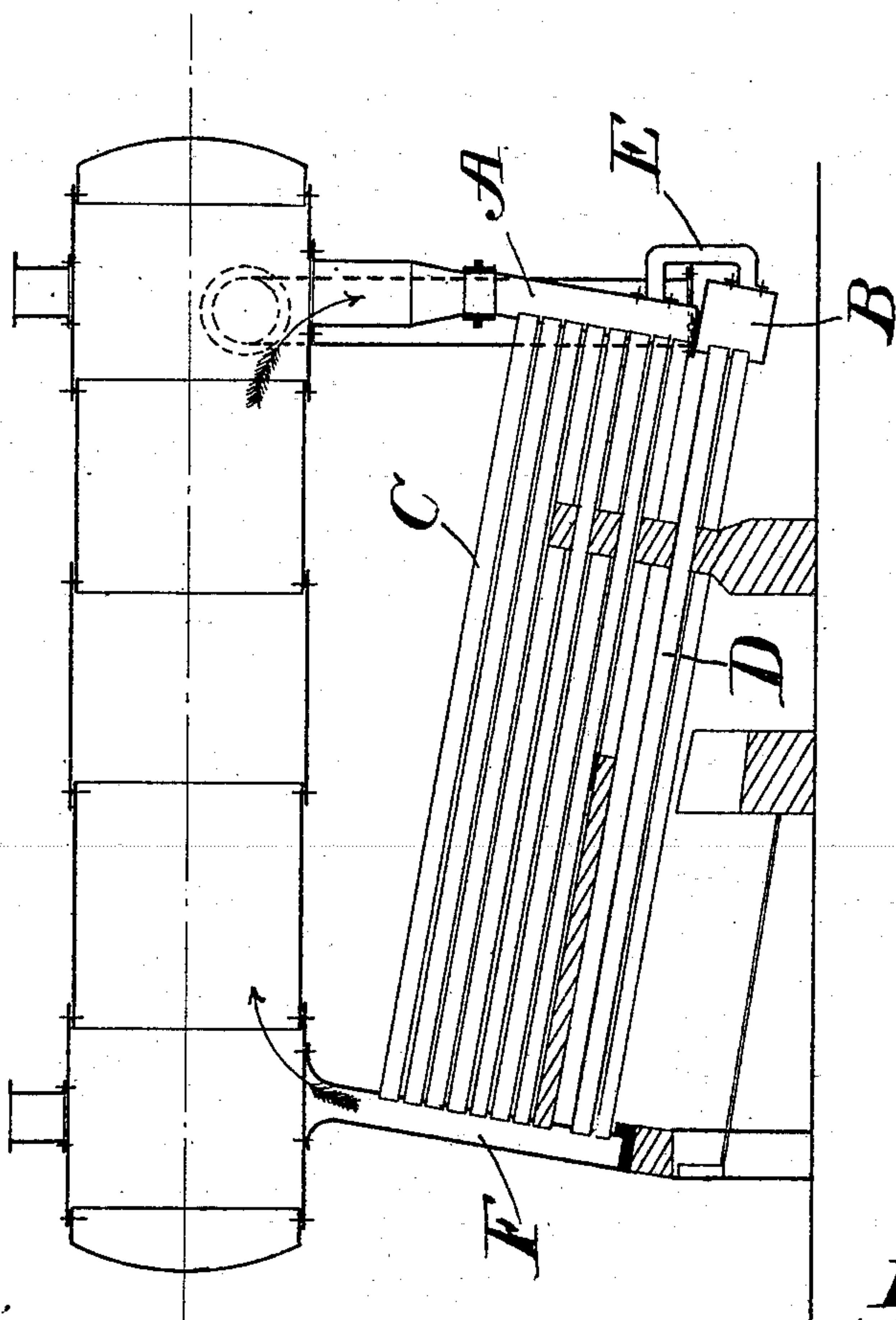


Fig. 1.



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UNITED STATES PATENT OFFICE.

HERMANN BLESSINGER, OF MAGDEBURG, GERMANY.

WATER-TUBE BOILER.

SPECIFICATION forming part of Letters Patent No. 637,701, dated November 21, 1899.

Application filed May 26, 1899. Serial No. 718,350. (No model.)

To all whom it may concern:

Be it known that I, HERMANN BLESSINGER, certificated architect, of 13 Königgrätzerstrasse, Magdeburg, in the German Empire, have invented Improvements in Water-Tube Boilers; and I do hereby declare that the nature of this invention and the manner in which the same is to be performed are particularly described and ascertained in and by the following statement.

In water-tube boilers as hitherto constructed the disadvantage always exists that the lower tubes become distorted, and consequently frequently leaky, before the upper tubes by reason of their being in more close proximity to, and consequently more severely acted upon, by the flames, with the result that the water in the lower tubes becomes hot and rises more quickly than that in the upper tubes, and where all the tubes are fed from a water-supply common to them all the lower tubes do not get fed sufficiently quick, and to obviate these disadvantages is the object and purpose of my invention.

Figure 1 is a central longitudinal section of my improved boiler; and Fig. 2 is an end view of the same, partly in section.

It will be understood that according to my invention the rear water-chamber is divided into two parts A and B, and that while the lower ends of the upper tubes C open into the chamber A the lower ends of the bottom tubes D, which are exposed directly to the flame, communicate with the chamber B, so that each chamber and each set of the tubes have their own separate water-supply, although communicating by a small passage-tube E. By this arrangement and a proper

consideration in mounting the tubes C and D the greater expansion of the latter need not interfere with the lesser expansion of the former, since the provision for sufficient water to efficiently cover the heating-surfaces of both sets may by this arrangement be considered as guaranteed. The front chamber F is preferably open to both sets of tubes.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a water-tube boiler, the combination with an upper set of tubes, of a second set of tubes below said upper set, each set being connected to a separate header provided with a water-supply, said headers being connected together by a curved tube, both of said sets being connected at the other end by means of a header common to both, substantially as described.

2. In a water-tube boiler, the combination with the steam-drum; of an upper set of tubes connected by means of a header to one end thereof, and a lower set of tubes connected by means of a separate header to the same end of said drum at a higher level than the first, both of said sets being connected to the other end of said drum by means of a header common to both, substantially as described.

In witness whereof I have hereunto signed my name, this 5th day of February, 1899, in the presence of two subscribing witnesses.

HERMANN BLESSINGER.

Witnesses:

F. T. STEPHAN,
PAUL MÜLLER.