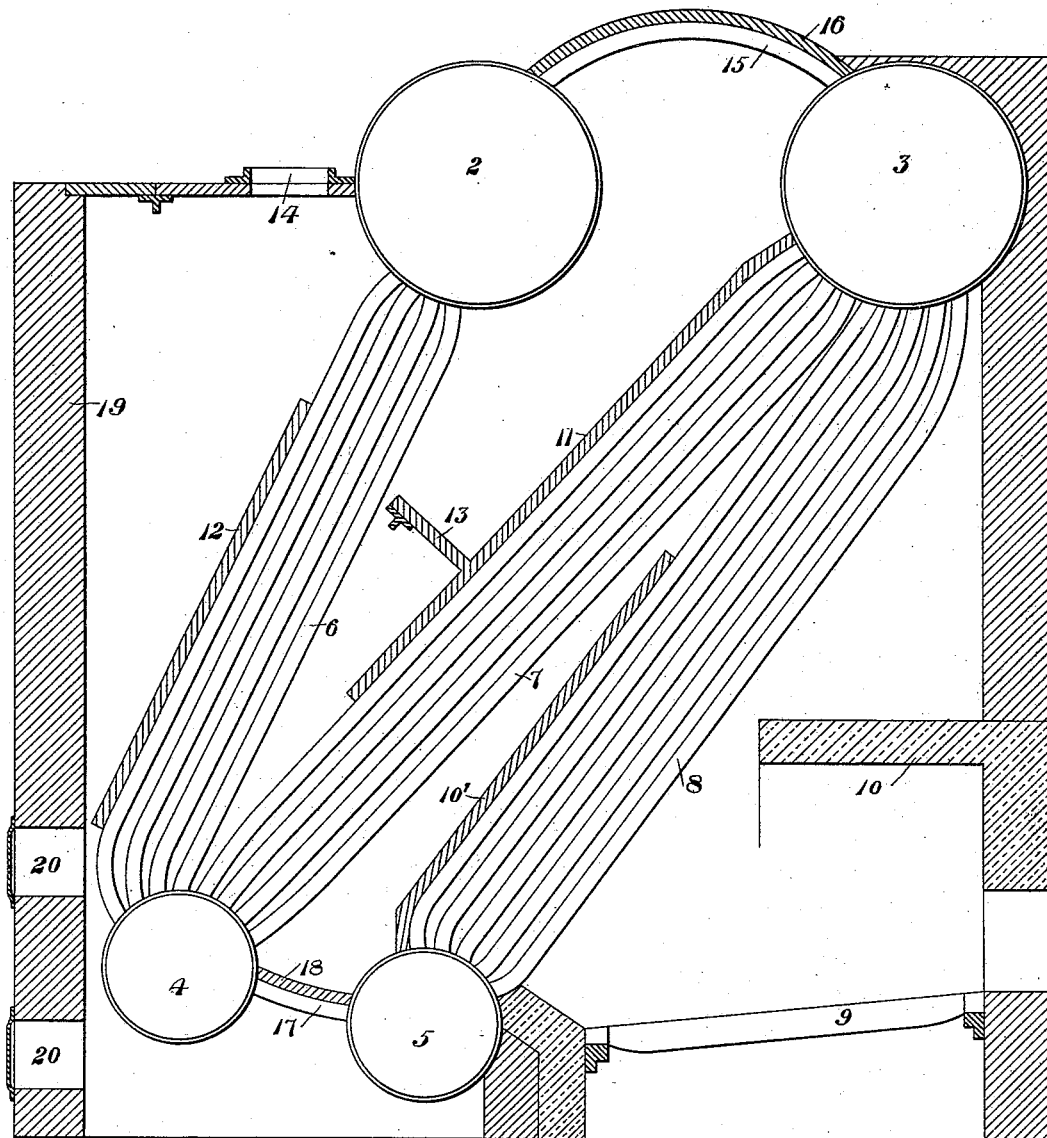


**J. PIERPOINT.
WATER TUBE BOILER.**

Patented Feb. 28, 1893.



C. Rymes.
H. M. Corwin

James Pierpoint
by W. Baxendell & Sons
his Attorneys.

UNITED STATES PATENT OFFICE.

JAMES PIERPOINT, OF PITTSBURG, PENNSYLVANIA.

WATER-TUBE BOILER.

SPECIFICATION forming part of Letters Patent No. 492,557, dated February 28, 1893.

Application filed August 10, 1892. Serial No. 442,701. (No model.)

To all whom it may concern:

Be it known that I, JAMES PIERPOINT, of
Pittsburg, in the county of Allegheny and
State of Pennsylvania, have invented a new
5 and useful Improvement in Water-Tube Boil-
ers, of which the following is a full, clear, and
exact description, reference being had to the
accompanying drawing, which represents a
vertical longitudinal section of my improved
10 boiler.

My invention relates to the class of water-
tube boilers, and it consists in an improved
boiler, having two steam and water drums and
a similar number of mud-drums, one of the
15 steam and water drums having two sets of
tubes, one set running to each mud-drum; the
other steam and water drum having a single
series of tubes connecting it to one of the
mud-drums.

20 In the drawing, 2 and 3 indicate the steam
and water-drums, and 4 and 5 the mud-drums,
the drums 2 and 4 being connected by the set
of tubes 6, while the drum 3 connects with the
drum 4 by the set of tubes 7, and with the
25 drum 5 by the tubes 8. These drums and
tubes are suitably built into the walls of the
furnace having the grate 9, above which is
placed the arch 10 to deflect the heat currents
against the tubes. A baffle wall 10' extends
30 upwardly in the rear of the tubes 8, and a
similar wall 11 is placed behind the tubes 7
to compel the rising products of combustion
to pass downwardly toward the lower end of
the tubes, while a third wall 12 is built in the
35 rear of the tubes 6, the products being thrown
against these tubes by the angled extension
13 of the wall 11, and passing between the
tubes 6 near the steam and water drum 2
reach the outlet flue 14. The steam and wa-
40 ter drums are connected by tubes 15, over
which is placed the inclosing wall 16, while
the mud-drums are similarly connected by
tubes 17, over which is placed the tile wall 18.

19 represents the rear inclosing wall of the
45 setting, having apertures 20 for gaining en-
trance to the tubes. The water being admit-
ted to the drum 2, passes through tubes 6 to

the drum 4, and thence a portion passes
through the tubes 7 to the drum 3, the other
portion passing through the tubes 17, drum 5,
50 and tubes 8 to the same drum 3. By the pe-
culiar connection of the drums the sediment
is thoroughly deposited in the mud-drums be-
fore passing to the drum 3, which receives
the greatest heat, and a regular and even 55
amount of heat is imparted to the water in all
parts of the boiler.

What I claim is—

1. A water-tube boiler, comprising two
steam and water drums, and two mud-drums, 60
one of said steam and water-drums being
in front of and connecting with both mud-
drums; substantially as and for the purposes
described.

2. A water-tube boiler, comprising two 65
steam and water drums, two mud-drums, two
sets of tubes inclined in the same direction
connecting one steam and water drum to the
mud-drums, and a third set connecting the
other steam and water drum to one of the 70
mud-drums; substantially as and for the pur-
poses described.

3. A water-tube boiler, comprising two con-
necting steam and water-drums, two connect-
ing mud-drums, two sets of tubes connecting 75
one steam and water drum to the mud-drums,
and a third set connecting the other steam
and water drum to one of the mud-drums; sub-
stantially as and for the purposes described.

4. A water-tube boiler, comprising two con-
necting steam and water drums, two connect-
ing mud-drums, two sets of tubes connecting
one steam and water-drum to the mud-drums
a third set connecting the other steam and
water drum to one of the mud-drums, and 85
baffle-walls behind the two rear sets of tubes;
substantially as and for the purposes de-
scribed.

In testimony whereof I have hereunto set
my hand this 1st day of August, A. D. 1892.

JAMES PIERPOINT.

Witnesses:

W. B. CORWIN,
C. BYRNES.