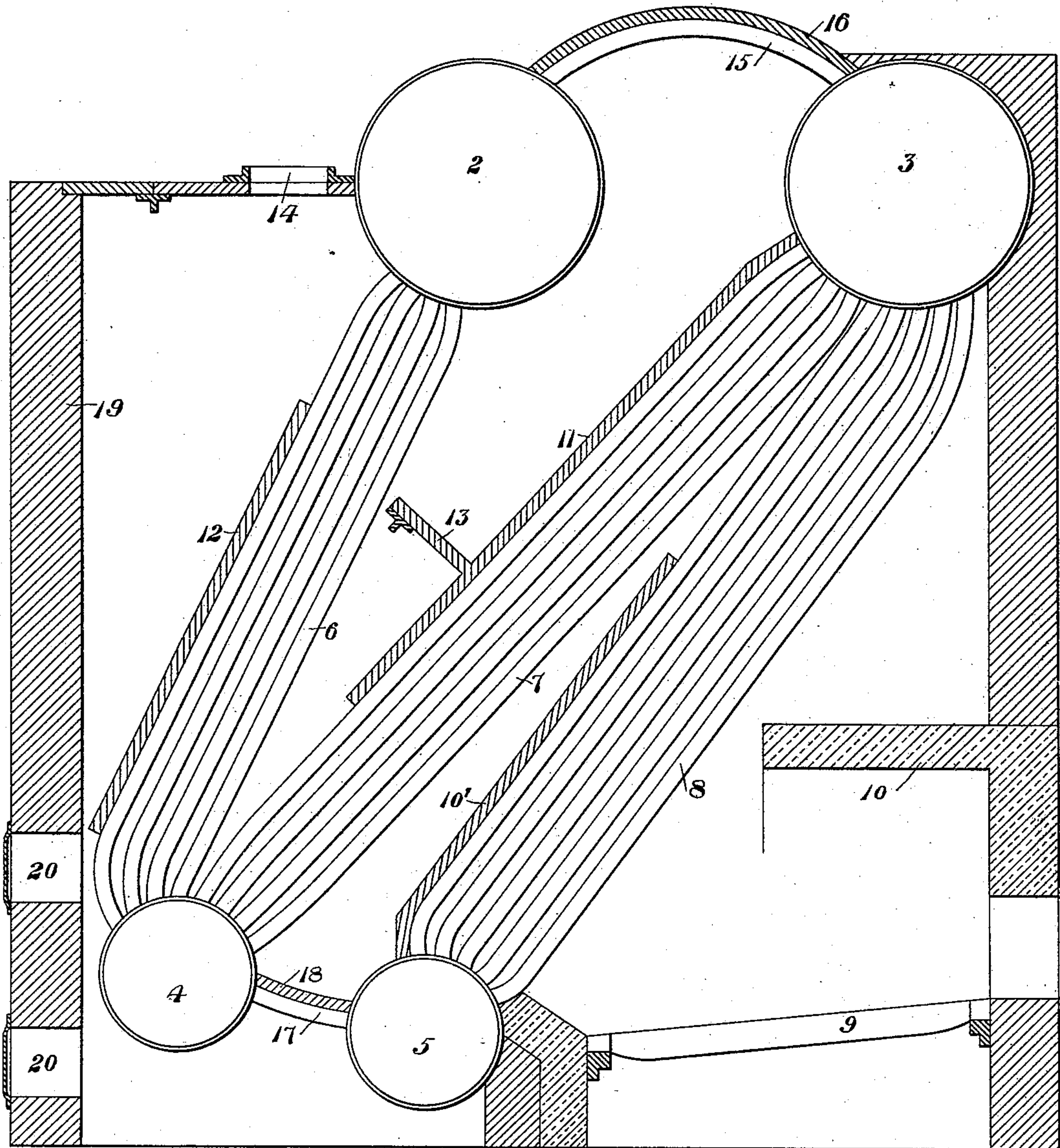


(No Model.)

J. PIERPOINT.  
WATER TUBE BOILER.

No. 492,557.

Patented Feb. 28, 1893.



WITNESSES

*C. Rymer.*  
*H. M. Corwin*

INVENTOR

*James Pierpoint*  
*by W. B. Caldwell & 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 Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Water-Tube Boilers, 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 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 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.

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 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 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 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 water 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 setting, having apertures 20 for gaining entrance to the tubes. The water being admitted 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, and tubes 8 to the same drum 3. By the peculiar connection of the drums the sediment is thoroughly deposited in the mud-drums before passing to the drum 3, which receives the greatest heat, and a regular and even 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, 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 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 mud-drums; substantially as and for the purposes described.

3. A water-tube boiler, comprising two connecting steam and water-drums, two connecting mud-drums, two sets of tubes 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 mud-drums; substantially as and for the purposes described.

4. A water-tube boiler, comprising two connecting steam and water drums, two connecting 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 baffle-walls behind the two rear sets of tubes; substantially as and for the purposes described.

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.