

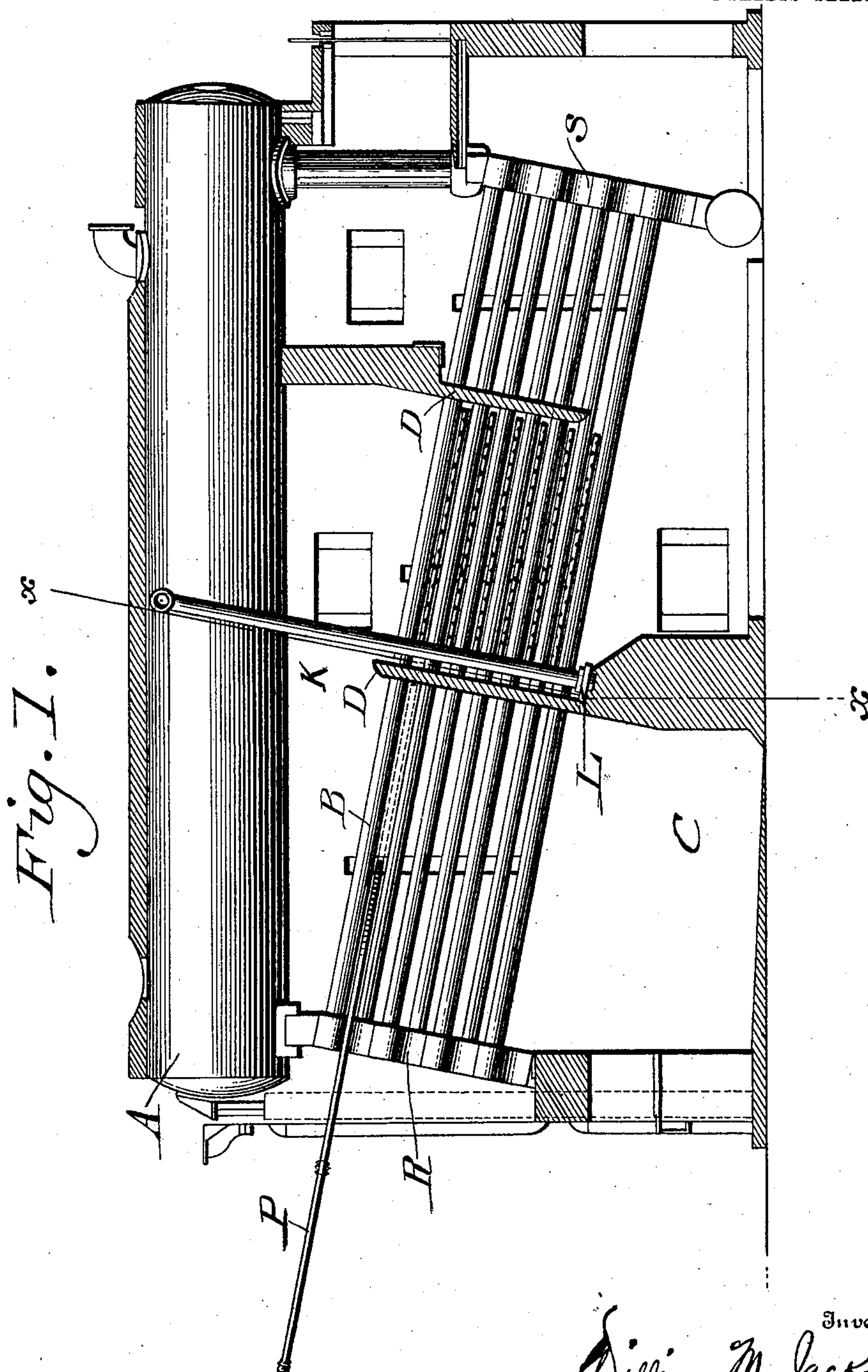
No. 720,356.

PATENTED FEB. 10, 1903.

W. M. JACKSON.
WATER TUBE BOILER.
APPLICATION FILED OCT. 4, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



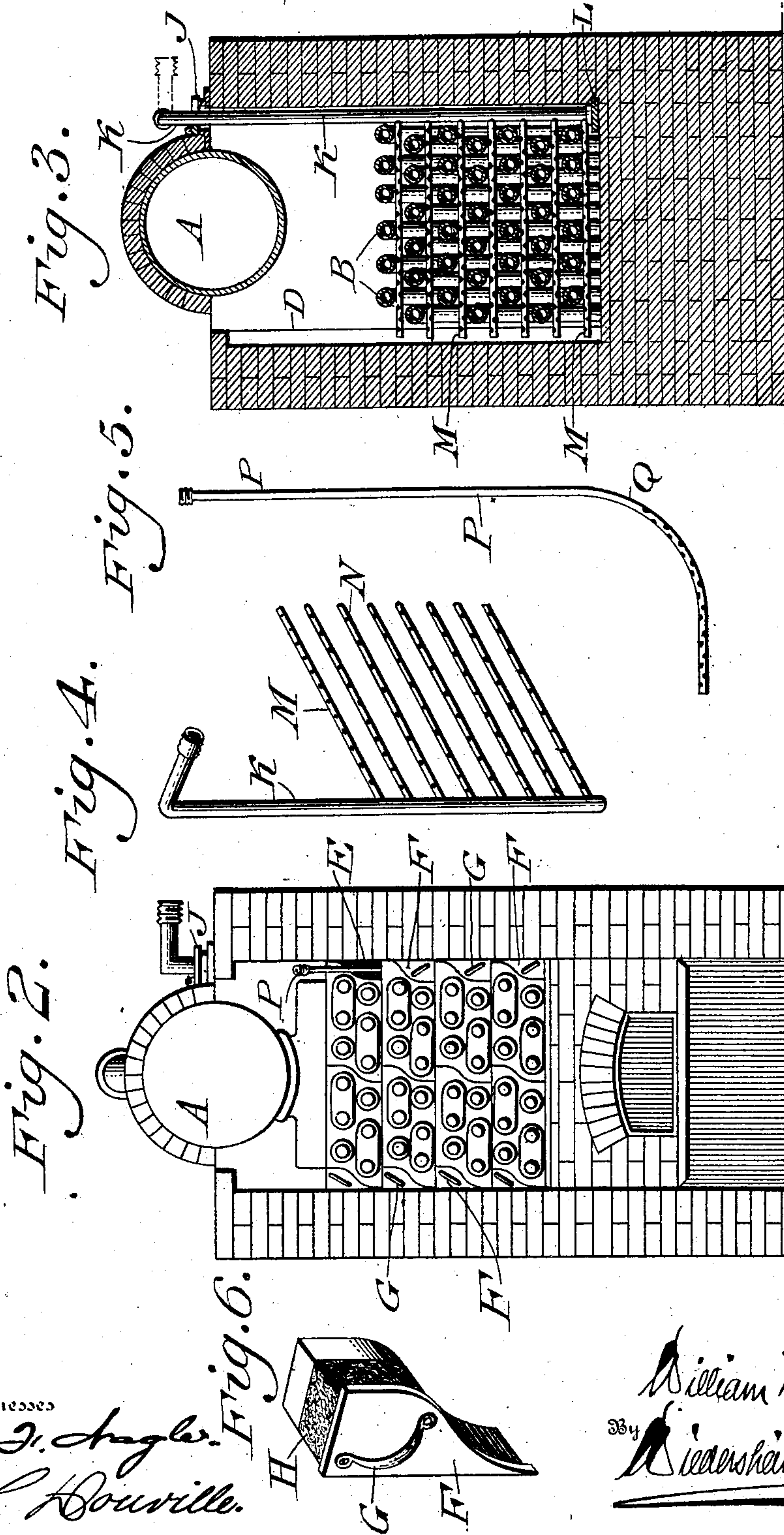
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM M. JACKSON, OF NEW BRUNSWICK, NEW JERSEY.

WATER-TUBE BOILER.

SPECIFICATION forming part of Letters Patent No. 720,356, dated February 10, 1903.

Application filed October 4, 1901. Serial No. 77,536. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. JACKSON, a citizen of the United States, residing at New Brunswick, in the county of Middlesex, State of New Jersey, have invented a new and useful Improvement in Water-Tube Boilers, of which the following is a specification.

My invention relates to an improvement in water-tube boilers; and it consists in cleaning the same by a pipe having a bent or curved end, a plurality of perforations therein, and a plurality of doors at the front and rear end of the water-tube compartment through which said pipe is adapted to be passed.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a partial sectional view and a partial side elevation of a water-tube boiler and compartment, showing the cleaning device in position. Fig. 2 represents a front elevation thereof. Fig. 3 represents a sectional view on line *xx*, Fig. 1. Fig. 4 represents a perspective view of one form of my cleaning device employed. Fig. 5 represents an elevation of another form of my cleaning device employed. Fig. 6 represents a perspective view of a door or closure for the openings communicating with the interior of the water-tube compartment.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the steam and water drum of a boiler suitably supported and communicating with the water-tubes B, which are situated in a suitable compartment C, which is provided with the usual fire-grates, &c., and said water-tubes having the usual baffle-plates D, and as the construction forms no part of the present invention further description is deemed unnecessary at this time.

E designates openings in the front and rear end of the water-tube headers, said openings being closed by doors or covers F, which are situated between the walls of the compartment and the sides of the water-tube headers, each of said doors having a handle G and a suitable packing H to prevent the escape of the products of combustion. The upper portion of the compartment is provided with a

door J, and through the same passes the pipe K, which is journaled, as at L, in a suitable arm or bearing. Secured to said pipe or tube K are the arms or pipes M, which are provided with a plurality of openings N, said pipes being situated at such a distance apart that they will pass between the water-tubes in a horizontal direction.

P designates a pipe or tube having the bent end Q, which is provided with a plurality of perforations, said pipe being adapted to pass through the openings E after the doors F have been removed. The operation is as follows: By removing one of the doors F the pipe P is inserted through the opening and the end thereof which is bent will be between adjacent sets of pipes. For example, in Fig. 1 the pipe P is between the two upper sets of water-tube pipes and the bent end extends longitudinally thereof. By now connecting the end of the pipe P with a suitable source of steam-supply and by moving the pipe P in and out the steam will pass out through the perforations in the pipe P and clean the water-tubes, after which the pipe is placed between the next two adjacent pipes, and so on, it being noted that this will clean the water-tubes between the front baffle-plate D and front header R of the water-tube, a similar operation being employed in order to clean the water-tube pipes between the rear baffle-plate D and rear header S. In order to clean the pipes situated between the two baffle-plates D, the pipe K is connected with a suitable source of steam-supply, and the pipe K is turned on its pivot or bearing L, so that the pipes N will pass between the water-tubes and the steam will clean the same.

It will of course be understood that it may not be necessary to retain the pipe K at all times within the compartment; but if the same is deemed advisable a suitable protector or covering can be employed.

It will of course be evident that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

5 In a water-tube boiler, a pipe rotatably mounted within the same and having a plurality of lateral branches having perforations and adapted to be turned on its pivot to pass the branches between the water-tubes, its

outer end being designed for connection with a source of steam-supply.

WM. M. JACKSON.

Witnesses:

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