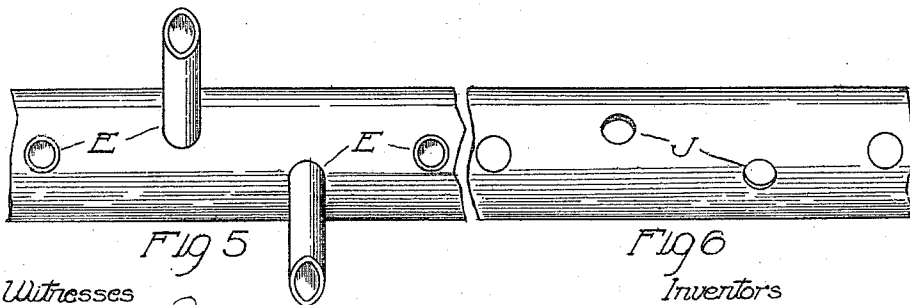
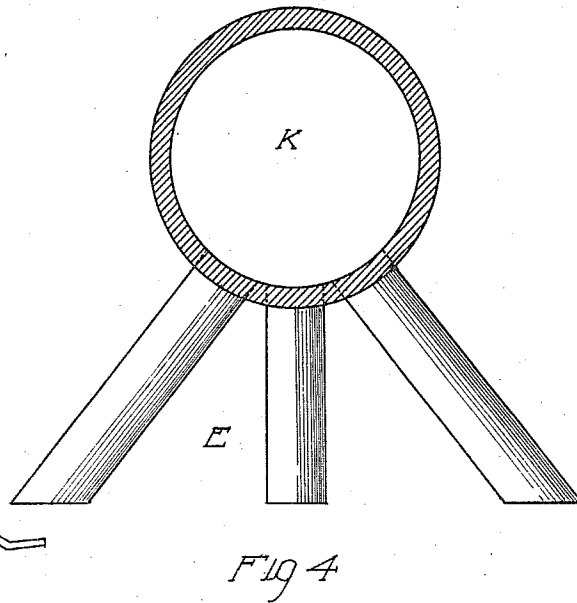
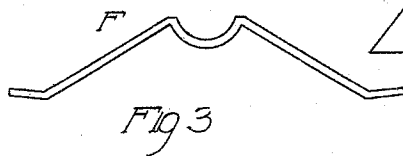
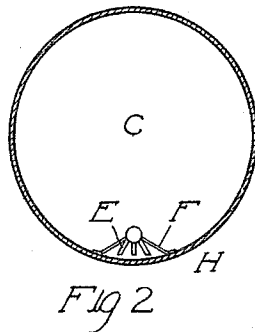
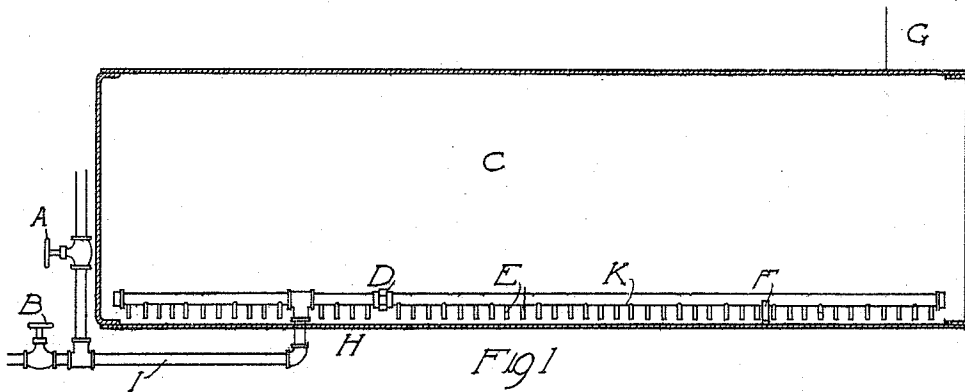


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AUTOMATIC BOILER CLEANER AND WATER DISTRIBUTER.

APPLICATION FILED SEPT. 26, 1910.

994,727.

Patented June 13, 1911.



Witnesses

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AUTOMATIC BOILER-CLEANER AND WATER-DISTRIBUTER.

994,727.

Specification of Letters Patent. Patented June 13, 1911.

Application filed September 26, 1910. Serial No. 583,967.

To all whom it may concern:

Be it known that we, DANIEL DWYER, EPHRAIM S. GARRETT, and SIDNEY J. O'DONNELL, all citizens of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented a new and useful Automatic Boiler-Cleaner and Water-Distributor, of which the following is a specification.

Our invention relates to the automatically cleaning of boilers by freeing them of mud, silt and such accumulations of substances as may occur or accumulate in the bottom of boilers; also to the distributing of the feed water uniformly throughout the length of boilers. We attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure one (1) represents a side view of a boiler with appliance adjusted for use; Fig. two (2) represents end view of Fig. one (1) cut off at letter "F" to show and illustrate Fig. three (3) properly adjusted so as to hold and support pipe "K" and to prevent nipples "E" from touching bottom of boiler. Fig. three (3) represents the device (also referred to as letter "F"), used to support pipe "K" with hollow nipples "E" off of bottom of boiler and in their proper position. Fig. four (4) shows and represents an end view of pipe "K" with hollow nipples "E" set and adjusted. Fig. five (5) shows and represents a small portion of pipe "K" with nipples "E" adjusted in position, but presented upward. Fig. six (6) shows pipe "K" presented upward with perforations "J" ready for use without hollow nipples "E".

Similar letters refer to similar parts throughout the several views or figures.

Calling attention and referring to Fig. one (1), a pipe "K", capped at both ends, is provided with hollow nipples "E" so placed in the bottom or under side of pipe "K", of such size, dimensions and number, as that the total area of the nipple openings shall approximate the area of the opening of the discharge pipe. Said pipe "K" may be put in boiler either with or without union "D". Said pipe "K" may be used with or without hollow nipples "E". Said pipe "K" when used without the nipples "E", must be so

arranged that the total area of all the openings in said pipe "K" shall approximate the area of the opening in the discharge pipe.

Should boiler "C" be so constructed that the feed and discharge pipe "I" enters the boiler close to one end, then pipe "K" may be attached to said feed and discharge pipe "I" by a circular or L joint, thus obviating the use of a cap at one end of said pipe "K".

Pipe "K" is supported and held off of the bottom of the boiler by a device shown in Figs. one, (1), two, (2), and three, (3), and represented by letter "F".

When valve "B" is closed and valve "A" open, the water supply is forced by pump, injector, or other device, through pipe "I" into pipe "K" and distributed through the openings or hollow nipples, as the case may be, in said pipe "K", throughout the length of said pipe "K", in said boiler. When valve "A" is closed and valve "B" open, the water in boiler "C" will pass into pipe "K" through said openings or hollow nipples and from pipe "K" through pipe "I" and valve "B" to discharge carrying with it the mud, silt and other substances that may have accumulated in said boiler. When steam pressure is on boiler and valve "A" closed and valve "B" open, the steam pressure forces water, in boiler, forcibly through said openings "J", or hollow nipples "E", into pipe "K", through pipe "I" and valve "B" and out of discharge pipe carrying with it such sediments as may have accumulated in said boiler, thus cleaning the same.

This device may be used with good effect without the use of nipples "E".

We prefer to carry out the ideas of our invention in the manner shown in Fig. one (1); the device however may be so changed as to be used in any boiler. The feature sought to be protected is the process of cleaning boilers by picking the sediment up with the water as it is forced into and through pipe "K" either by pressure of the water itself or steam in the boiler and also the process of equally distributing the water along the bottom of boilers.

We are aware that prior to our invention, perforated pipes have been made and used

to clean boilers, said pipes having been used both with and without nipples. We do not therefore claim such invention broadly, but

What we do claim as our invention and
5 desire to secure by Letters Patent, is;

An automatic boiler cleaner and water distributor consisting of a pipe "K" placed close to the bottom of boiler, said pipe "K" to have hollow nipples "E" screwed into it
10 at intervals along its entire length, said hollow nipples "E" to point downward when pipe "K" is in place in boiler, said hollow nipples "E" to be screwed into a sectional arc, of said pipe "K", not greater than 120

degrees, or said hollow nipples "E" ranging 15 from a perpendicular to 60 degrees away from perpendicular, said pipe "K" to be attached to water intake and discharge pipe or pipes by T or L joint or joints.

Witness our signatures this the 22nd. day of September, 1910.

DANIEL DWYER.
EPHRAIM S. GARRETT.
SIDNEY J. O'DONNELL.

Witnesses:

M. HERRING,
J. A. STRONG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
