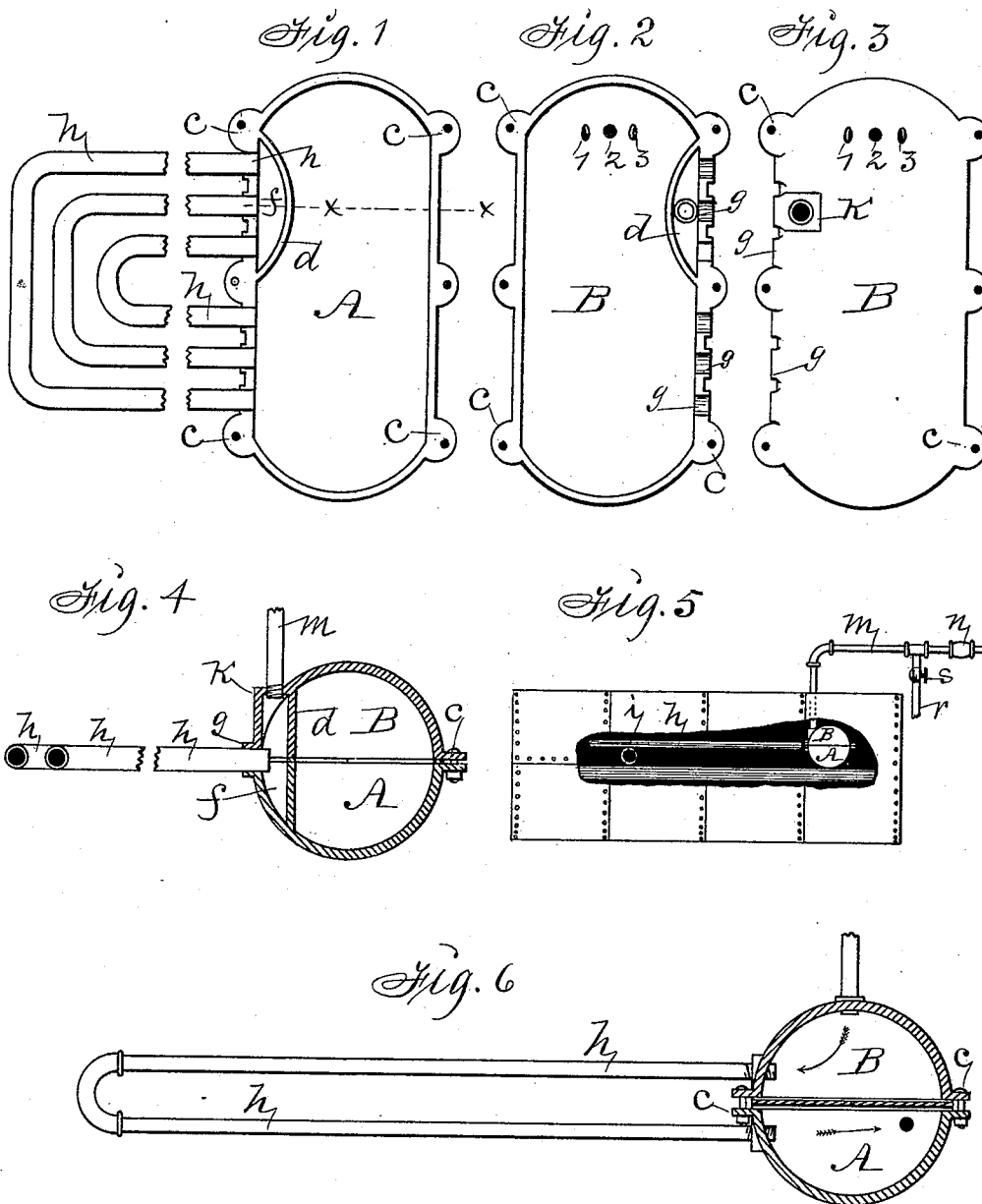


(No Model.)

F. V. MEDYNSKI.  
FEED WATER PURIFIER.

No. 397,810.

Patented Feb. 12, 1889.



Witnesses:  
O. W. Stiles,  
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By Thomas G. Orwig, Atty.

# UNITED STATES PATENT OFFICE.

FRED. V. MEDYNSKI, OF DES MOINES, IOWA.

## FEED-WATER PURIFIER.

SPECIFICATION forming part of Letters Patent No. 397,810, dated February 12, 1889.

Application filed September 24, 1888. Serial No. 286,274. (No model.)

*To all whom it may concern:*

Be it known that I, FRED. V. MEDYNSKI, a citizen of the United States of America, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented an Improved Feed-Water Purifier, of which the following is a specification.

My object is to prevent the dangers and accidents incident to the fouling of steam-boilers by impure water; and my invention consists in the construction and combination of a water feeding and purifying device with a boiler, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the lower half of a cast-iron vessel adapted to be introduced through the man-hole of a boiler and placed across tubes fixed in the ends of the boiler in such a manner that bent open-ended tubes can be clamped fast thereto by means of a mating top. Fig. 2 is a bottom view of the top portion of the vessel, and Fig. 3 is a top view of the same upper half of the complete vessel. Fig. 4 is a transverse sectional view of the complete device, taken through the line *xx* indicated in Fig. 1. Fig. 5 shows the complete device reduced and in position in a boiler as required for practical use. Fig. 6 is a modification of the complete device.

A is the elongated under half of the vessel, and B the mating upper half. They are preferably semicircular in cross-section, as shown in Figs. 4 and 6. They have coinciding perforated ears *c* at their edges, through which screw-bolts are passed to clamp them together.

*d* are partitions formed integral with the inside surfaces of the parts A and B in such a manner as to produce an inlet-chamber, *f*, as shown in Fig. 4, from which cold water may be conducted rearward through tubes to be heated, and then returned to the vessel, where the impurities will be precipitated to the bottom as the pure water passes out upward through a series of perforations, 1 2 3 4, formed in the top of the part B, as shown in Figs. 2 and 3.

*g* are semicircular projections formed integral with the edges of the mating parts A and B to serve as bearings for the ends of bent tubes *h*, that extend horizontally and at right angles, and are supported level by means of

a tube, *i*, laid across the fixed tubes in a boiler, as shown in Fig. 5.

*k* is a flat-bottomed recess in the top of the upper part, B, through which a tube, *m*, is extended into the inlet-chamber *f* to establish communication with a pump or source of water-supply.

*n* represents an automatic check-valve in the supply-pipe *m*.

*r* is a branch tube connected with the tube *m* and provided with a stop-cock, *s*.

In the practical operation of my invention thus constructed and applied water is forced through the pipe *m* into the chamber *f*, and from thence through the bent tubes *h* into the steam-tight vessel composed of the mating parts A and B. As the water circulates through the tubes *h*, it becomes heated, while it is in the vessel all impurities—mud, salt, lime, and other foreign substances that will aid in fouling a boiler—will settle into the bottom as the pure water enters the boiler through the series of perforations 1 2 3 4. The vessel will thus serve as a trap to confine such matter as would otherwise lodge on the bottom of the boiler and adhere thereto. To empty the vessel of the impurities thus gathered therein, I simply stop the operation of the pump or other pressure that forces water through the tube *m*, and then open the stop-cock *s* in the branch *r* and allow the steam in the boiler to pass into the vessel through the series of perforations 1 2 3 4, and from thence through the tubes *h* and *m* to carry off the foreign matter gathered in the vessel and discharge it through the branch *r*.

I claim as my invention—

1. A water feeder and purifier for steam-boilers, comprising a steam-tight vessel composed of two mating parts having coinciding perforated ears at their edges, integral coinciding partitions, and coinciding bearings for the ends of tubes, a series of bent tubes having their ends fastened in said bearings, a water-supply pipe having an automatic check-valve, and a branch or blow-off pipe having a stop-cock arranged and combined with a boiler to operate in the manner set forth, for the purposes stated.

2. The under part of a vessel, A, having perforated ears *c*, a partition, *d*, and bearings *g*, and the upper mating part, B, having coin-

ciding ears *c*, partition *d*, bearings *g*, a recess, *h*, and a series of perforations, 1 2 3 4, and the tubes *h*, constructed and combined substantially as shown and described, for the purposes stated.

5 3. A water feeder and purifier composed of a steam-tight vessel made of two mating parts clamped together with bolts and provided with a partition, an induction-tube or supply-  
10 pipe connected with one of the apartments of the vessel and provided with an automatic check-valve, a series of tubes extending out-

ward from one of the apartments and into the other apartment, one or more eduction-ports on the opposite side of the partition relative 15 to the induction-tube, and a branch tube having a stop-cock fixed to the supply-pipe at a point between the check-valve and the vessel, to operate in the manner set forth.

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Witnesses:

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