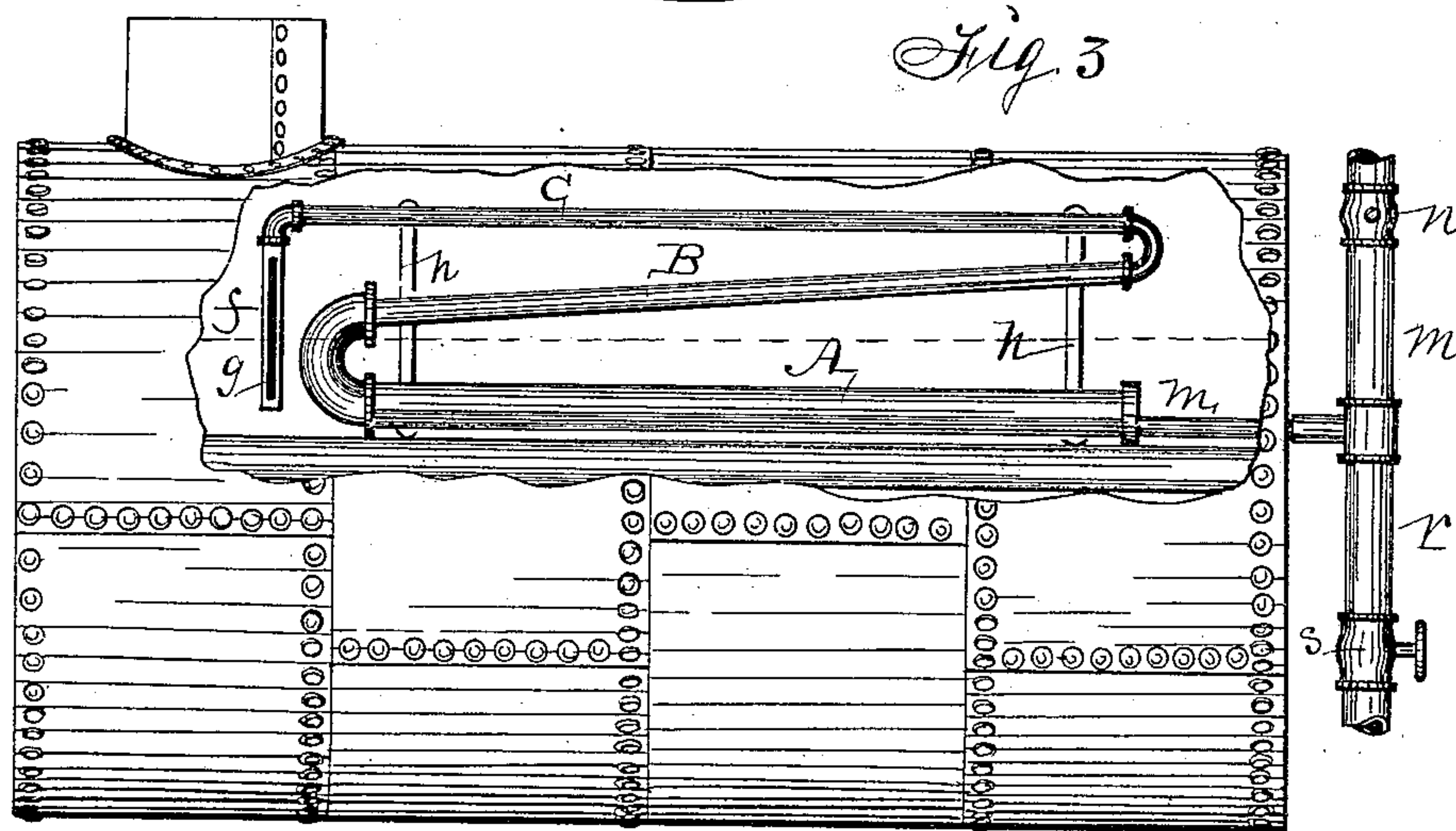
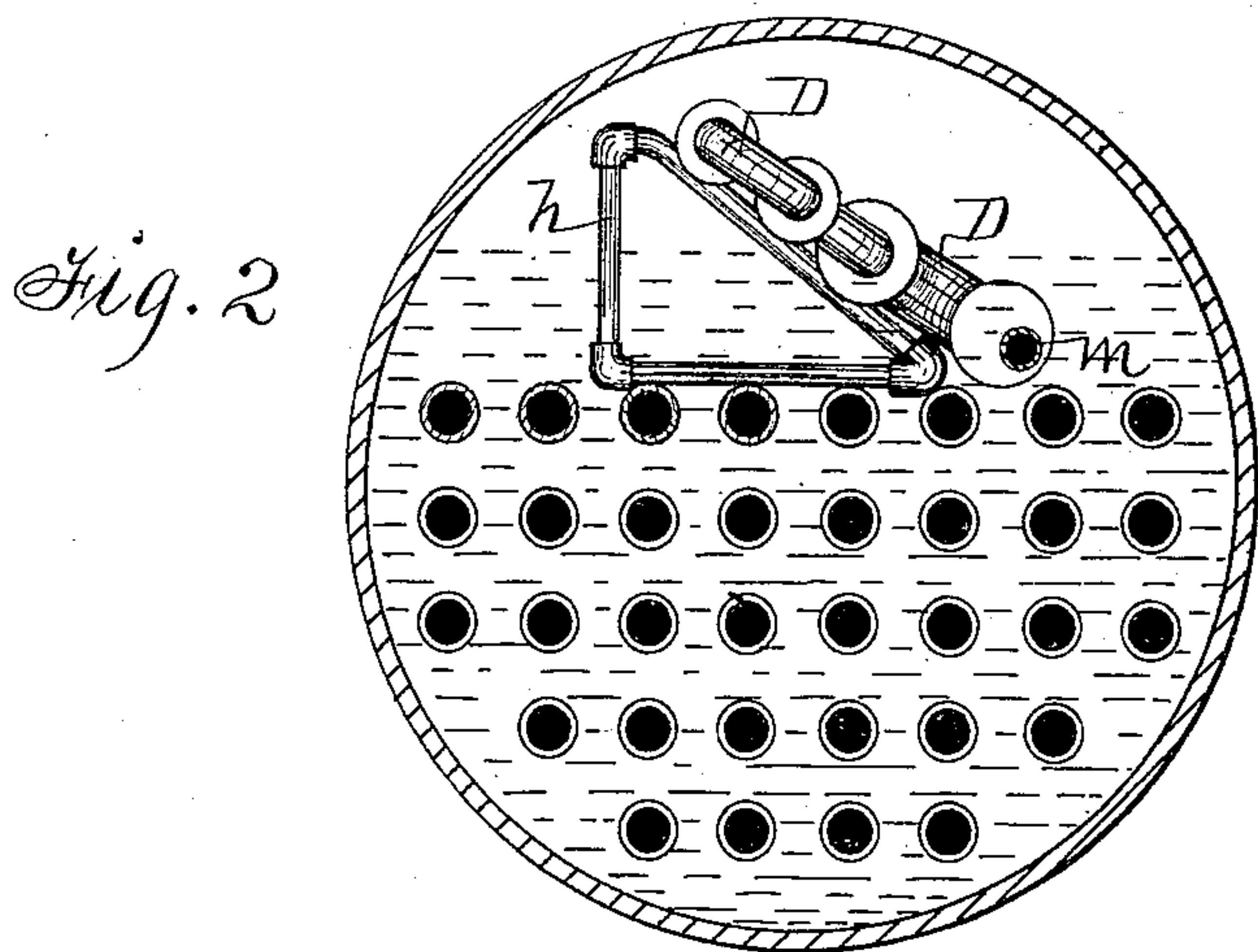
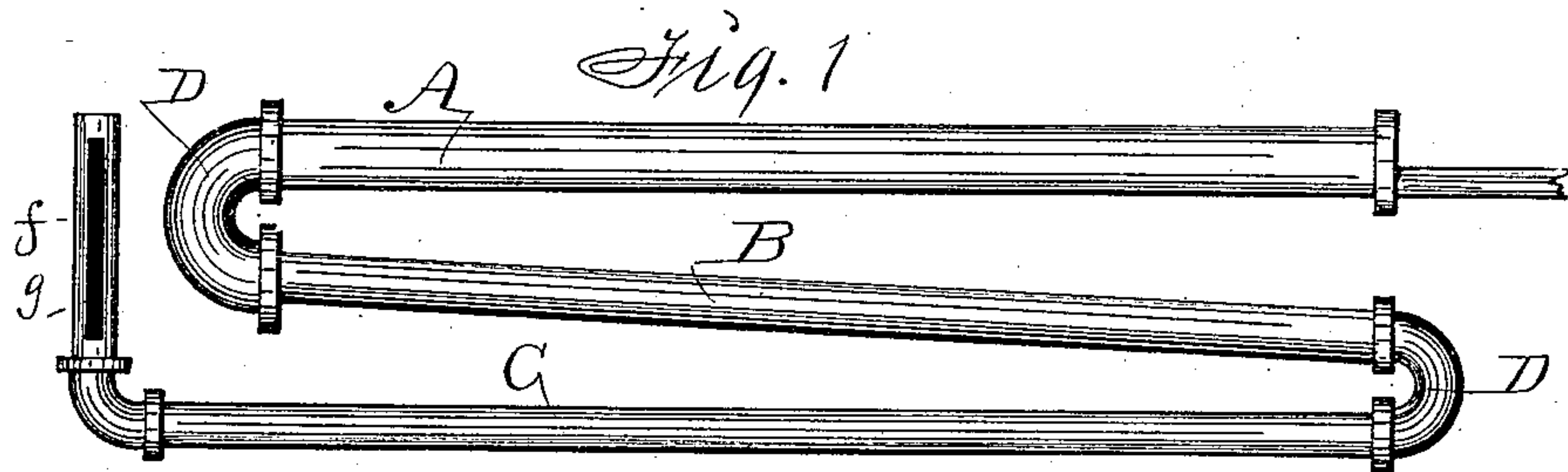


(No Model.)

F. V. MEDYNSKI.
FEED WATER PURIFIER.

No. 407,364.

Patented July 23, 1889.



Witnesses:
O. M. Stiles,
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UNITED STATES PATENT OFFICE.

FRED V. MEDYNSKI, OF DES MOINES, IOWA.

FEED-WATER PURIFIER.

SPECIFICATION forming part of Letters Patent No. 407,364, dated July 23, 1889.

Application filed September 24, 1888. Serial No. 286,273. (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 for Steam - Boilers, of which the following is a specification.

Heretofore devices of various forms have been combined with boilers in such a manner that water could be passed through them into the boiler by means of a pump outside of the boiler, so that the water would become heated in its passage and foreign substances in the water precipitated before the water entered the boiler, and after salt, lime, clay, or other impurities were thus gathered in a device inclosed inside of the boiler the water-induction pipe could be closed by means of a check-valve, and the impurities gathered within the device blown out through an eduction port or tube by the pressure of steam generated within the boiler.

My invention is one of the class described; and it consists in the construction of a device composed principally of plain straight tubes, and its application and operation, as hereinafter set forth, in such a manner that it can be readily combined with a boiler to purify water in its passage to the boiler, and also to carry off scum and impurities that may gather on the surface of the water within the boiler.

Figure 1 of the accompanying drawings is a top view of the device. Fig. 2 is a transverse section of a boiler having the device inclosed and in position as required for practical use. Fig. 3 is a side view of a boiler from which parts are broken away to show the device.

A B C are straight metal tubes connected with each other by means of elbows D, or in any other suitable way, so as to produce steam-tight joints and to retain the tubes aside of each other in the same plane.

f is an extension connected with the free end of the tube C, and g is a longitudinal slot in the extension. The end of the extension is preferably closed, so that the water will pass through the slot. The tubes may vary in number and size, and the extension f is on the end of the smallest diameter.

The device is introduced into a boiler through a man-hole and placed on top of the boiler-tubes and supported in an inclined position, as clearly shown in Fig. 2, by means of a skeleton h , made of tubular iron, or in any suitable way to retain the tubes A B C at different points of elevation, so that the extension f will project downward. The device may rest flat upon the boiler-tubes, or supported by other suitable means, and the extension f projected upward.

m is an induction-tube connected with the free end of the tube A and the head of the boiler, and designed to extend to a pump.

n represents an automatic check-valve connected with the tube m , and r is an eduction-tube that extends from the tube m at a point near the boiler.

s is a stop-valve connected with the tube r . When water flows through the tubes A B C, as required to feed the boiler, it will become heated in the tubes, and foreign substances that would be damaging to the boiler will be precipitated and remain in the tubes, so that when the valve in the eduction-tube r is opened the steam generated and confined in the boiler will press into the opening or slot g in the extension f and out through the tubes C, B, A, m , and r , and blow out all the sediment and impurities from the completed device, and at the same time suck in and carry off and discharge the sediment and foam that may float on the surface of the water in the boiler.

I am aware that straight tubes have been connected and placed in a boiler in such a manner that water would be injected from nozzles attached thereto into the bottom of the boiler. I am also aware that a perforated tube has been connected with a drum on the outside of a boiler and extended vertically into the boiler in such a manner that scum on the water could be blown out of the boiler and through the drum; but my manner of arranging and combining a slotted tube with straight tubes and a support inside of the boiler is novel and advantageous.

I claim as my invention—

1. A feed-water purifier for steam-boilers, composed of two or more straight tubes, and provided with an extension at one end that

will project vertically, and that has one or more openings or slots that will admit water to enter at different points of elevation, for the purposes stated.

- 5 2. The boiler - water purifier comprising straight tubes A B C, elbows D, and an extension *f*, having one or more openings or slots,

and a support *h*, arranged and combined and applied and operated substantially as set forth.

FRED V. MEDYNSKI.

Witnesses:

MARTIN P. SMITH,
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