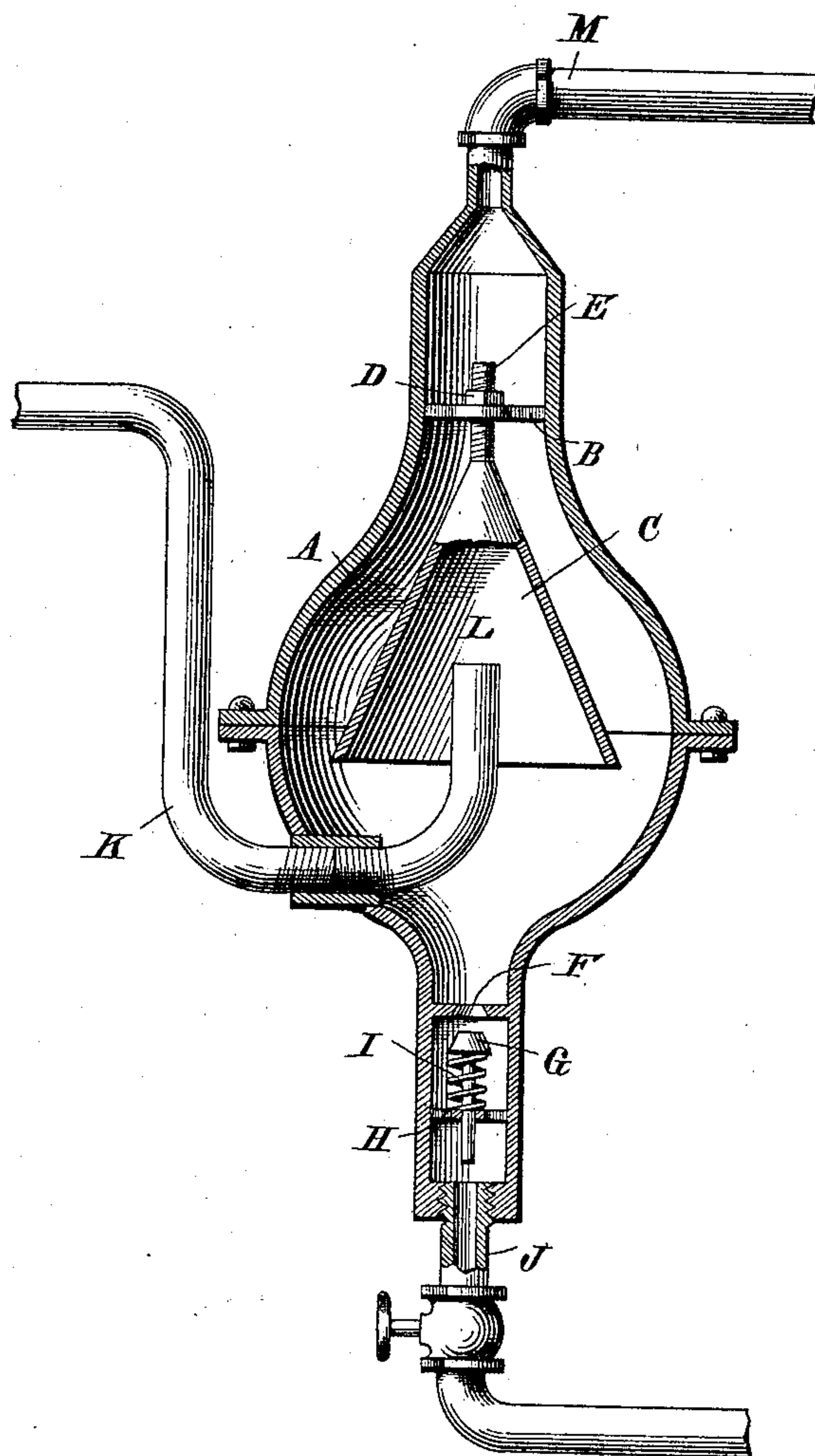


(No Model.)

C. APPLGATE.
WATER PURIFIER.

No. 603,548.

Patented May 3, 1898.



Witnesses
W. Riley
Chas. Brock

Inventor
Clarence Applegate
by *Clarence Applegate*
Attorneys

UNITED STATES PATENT OFFICE.

CLARENCE APPLGATE, OF EVANSVILLE, INDIANA, ASSIGNOR OF ONE-HALF
TO McDONALD BROTHERS, OF SAME PLACE.

WATER-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 603,548, dated May 3, 1898.

Application filed August 11, 1897. Serial No. 647,866. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE APPLGATE, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented a new and useful Water-Purifier, of which the following is a specification.

My invention relates to water-purifiers, and is in the nature of a device of this class specially intended to purify the feed-water of boilers.

The object of my invention is to furnish a cheap, simple, strong, and durable feed-water-purifying arrangement for boilers whereby the water fed into the boiler is purified.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, forming part of this specification, which is a vertical sectional view, partly in elevation, showing my feed-water purifier detached from the boiler.

My purifier consists of a chamber A, provided with a cross-bar B, from which is suspended an inverted cone C, by means of a nut D on the stem E. In the lower part of the chamber is provided a perforated diaphragm F, which forms the seat of a valve G, which is mounted to slide in the cross-bar H, and held to the seat by a spring I. A waste-pipe J leads from the bottom. The pipe K is the usual service-pipe from the water-main, the water from which will be discharged at L within the cone and thrown up against the interior thereof, flowing back into the chamber A, a large percentage of the matter suspended in the water dropping back

to the bottom and passing out through the valve G to be discharged through the waste-pipe J. The purified water will pass upward through the pipe M and be discharged into the boiler.

By the use of my purifying apparatus water will be discharged into the boiler in much purer condition than when it came from the main, and thus prevent to a large extent the accumulation of sediment, which would form smudge and boiler-crust, and the extreme danger of burning up the boilers containing them.

By virtue of preventing the formation of scale and smudge in the boiler my invention is a great economizer of fuel, as it is a well-known fact that incrustated boilers and boilers coated within with smudge require a much greater degree of heating and a larger consumption of fuel to raise the steam to a given pressure.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein-described feed-water purifier, consisting of the chamber, A, provided with a cross-bar, B, near its upper end, the inverted cone, C, adjustably suspended from said cross-bar, the inlet-pipe from a water-supply under pressure entering the chamber, A, below the cone, bent upward and discharged at L at about the middle of the cone, a discharge-pipe leading from the top of the chamber to the boiler, the diaphragm, F, below the cone, perforated to form a valve-seat, the upward-closing spring-valve, G, normally engaging said seat, and the sediment-discharge pipe, J, leading from the bottom of the chamber, substantially as described.

CLARENCE APPLGATE.

Witnesses:

WM. REISTER,

FREDERICK C. MULLER.