

No. 647,409.

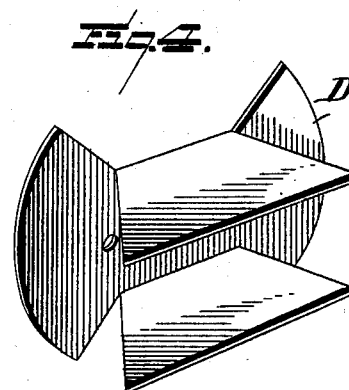
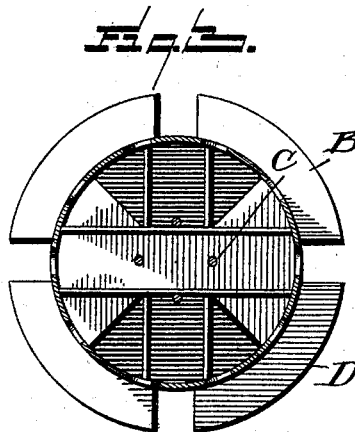
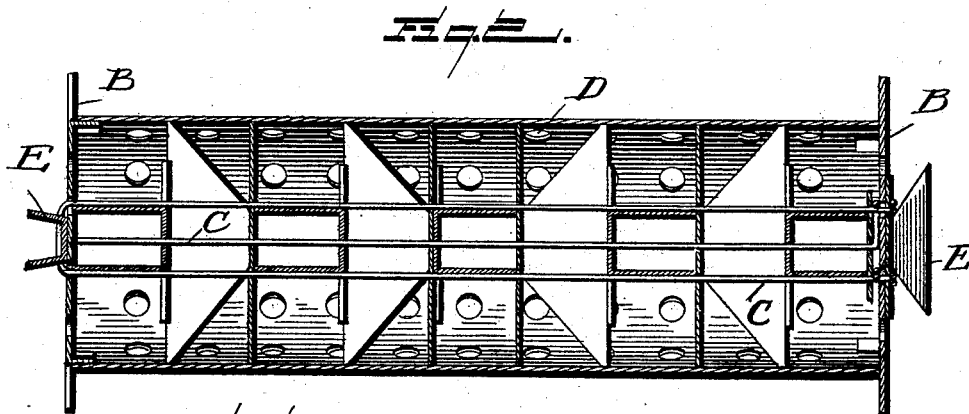
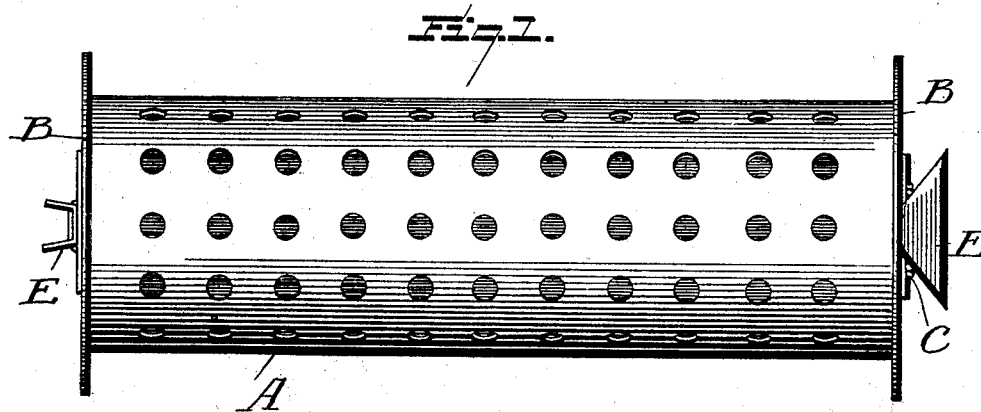
Patented Apr. 10, 1900.

F. A. HUDSON & H. A. ALLISON.

BOILER CLEANER.

(Application filed Dec. 20, 1899.)

(No Model.)



Witnesses:

L. C. Mills.  
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# UNITED STATES PATENT OFFICE.

FRED A. HUDSON AND HENRY A. ALLISON, OF CEDAR FALLS, IOWA.

## BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 647,409, dated April 10, 1900.

Application filed December 20, 1899. Serial No. 741,017. (No model.)

*To all whom it may concern:*

Be it known that we, FRED A. HUDSON and HENRY A. ALLISON, citizens of the United States, residing at Cedar Falls, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Boiler-Cleaners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to new and useful improvements in boiler-cleaning receptacles, and particularly to a device which is cylindrical in form and perforated and containing a series of disks which are held to the heads 20 of the receptacle by means of wires, whereby the disks may be easily adjusted in place and removed when it is desired to fill the receptacle with such electrolytes as may be found to coact with the metal of which the receptacle and disks and connections are made to produce an electrochemical action for the purpose of loosening the boiler-scale.

To these ends and to such others as the invention may pertain the same consists, further, in the novel construction, combination, and arrangement of parts, as will be hereinafter more fully described, and then specifically defined in the accompanying drawings.

Our invention is clearly illustrated in the 35 accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings—

Figure 1 is a side elevation of our boiler-cleaning receptacle. Fig. 2 is a central longitudinal section through the receptacle. Fig. 3 is a cross-sectional view through the receptacle, and Fig. 4 is an enlarged detail view in perspective of one of the disks.

Reference now being had to the details of the drawings by letter, A designates the cylindrical portion of the receptacle, which is made, preferably, of zinc or any other material which may be found to be adapted for the purpose. The circumference of said cylindrical portion is perforated, as shown. The 50 ends B of the receptacle are perforated and have wings bent at right angles and adapted

to fit inside of the bore of the cylinder, and the diameter of each cylinder-head is greater than the diameter of the cylindrical portion 55 of the receptacle for the purpose of supporting the cylindrical portion a slight distance above the surface of the boiler on which the receptacle is adapted to rest, whereby the perforations are kept open.

Mounted on a longitudinally-disposed wire C, which wire is preferably made of copper, are the disks D, made of zinc, said disks being slitted and having two oppositely-disposed wings bent at right angles to the remaining 65 wings, which are parallel to the cylinder ends. Said wires are passed through apertures in the disks and the wings, which are bent at right angles to the ends of the cylinder, are designed to separate the disks and hold same 70 at given distances apart, as shown in the drawings. On the outer face of each of the cylinder-heads is a disk E, bent as are the disks which are held together by said wire, and passing over two of the oppositely-disposed wings 75 of said outside disk E is a wire which passes through apertures in the heads of the cylinder, in the opposite ends of the latter. Each head of the cylinder has a disk E, bent as described, and which are for the purpose of preventing the receptacle proper from contacting with the inner surface of the cylinder. The ends of the wire being disengaged from the cylinder-head allows the disks within the receptacle to be easily removed when it is desired to place the electrolytes within the receptacle. 85

In practice it is our purpose to place any suitable electrolytes in the cylindrical receptacle between the disks, which are made, preferably, of zinc held together with a copper wire, whereby an electrochemical action may be produced which will so act upon the boiler-scale as to loosen same from the surface of the boiler. The present application, however, 95 relates merely to the mechanical construction of the receptacle.

What we claim is—

A boiler-cleaning receptacle, comprising a cylindrical casing perforated circumferentially, and having open ends, detachable perforated heads of larger diameter than the diameter of the cylinder, integral lugs on said heads adapted to extend within the cylinder, 100

a series of slitted disks having wings bent in pairs at right angles to each other, a wire passing through apertures in said disks and fastened to the cylinder-heads, and the clips secured to the outer faces of the cylinder-heads and held thereto by means of said wire, as shown and described and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

FRED A. HUDSON.  
HENRY A. ALLISON.

Witnesses:

THEO. BOEHLER,  
KATE HATCH.