

Feb. 1, 1927.

1,616,372

E. JANSON

BOILER CLEAN-OUT DEVICE

Filed Oct. 6, 1924

2 Sheets-Sheet 1

Fig. 1.

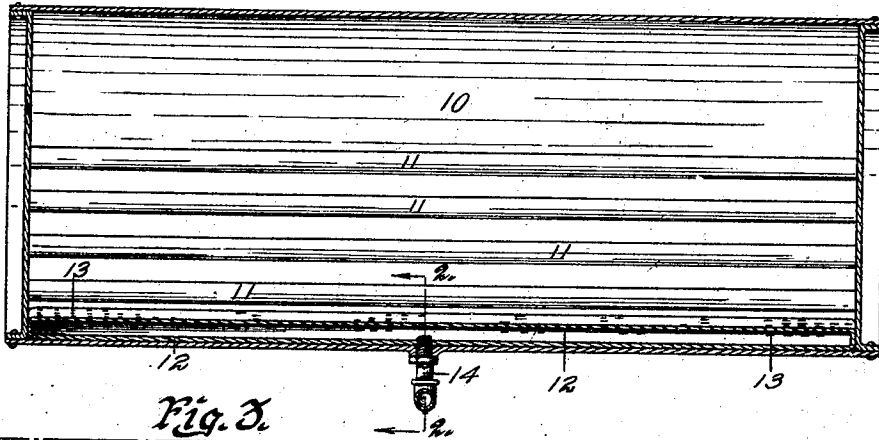


Fig. 3.

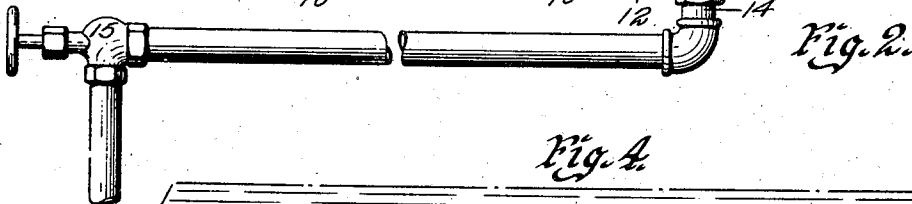
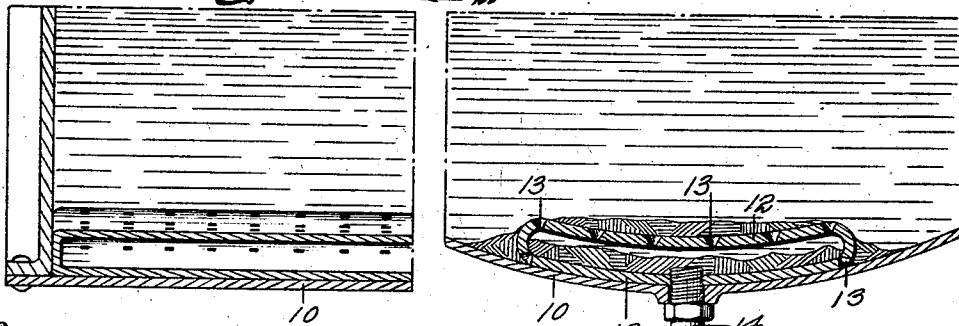
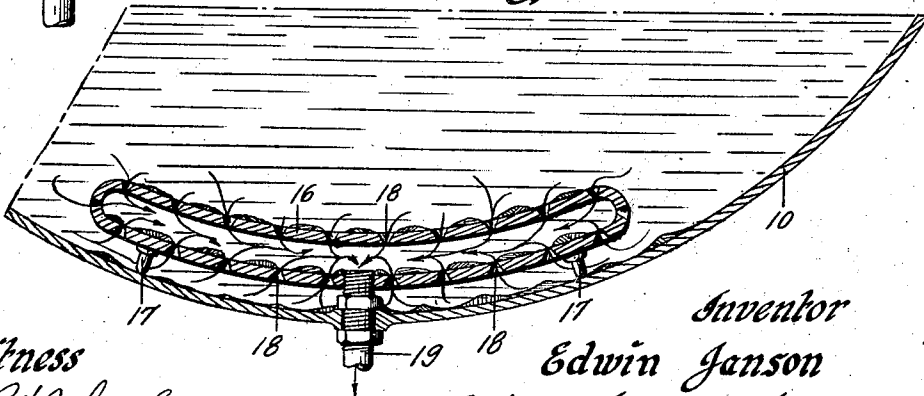


Fig. 2.

Fig. 4.



Witness

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2 Sheets-Sheet 2

Fig. 6.

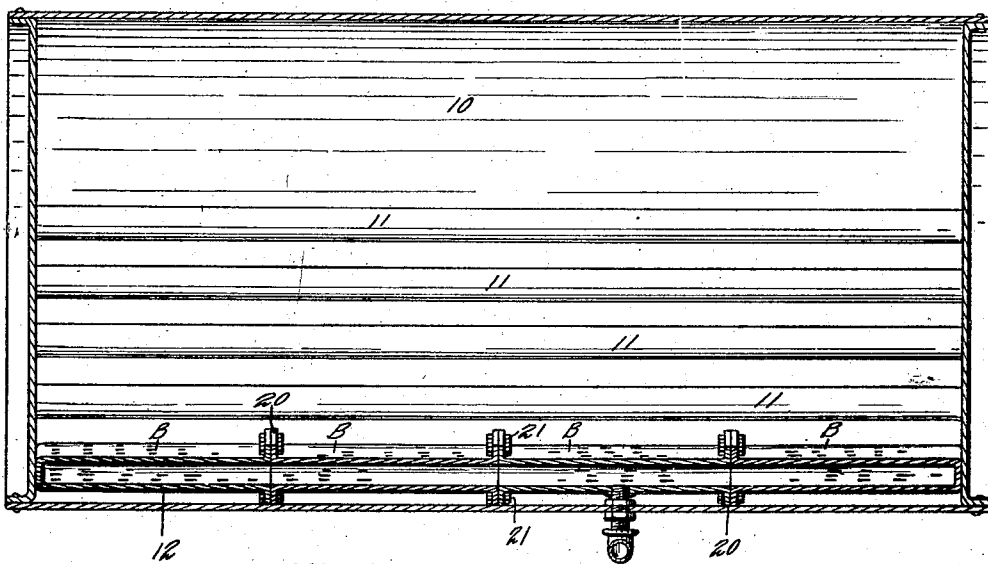
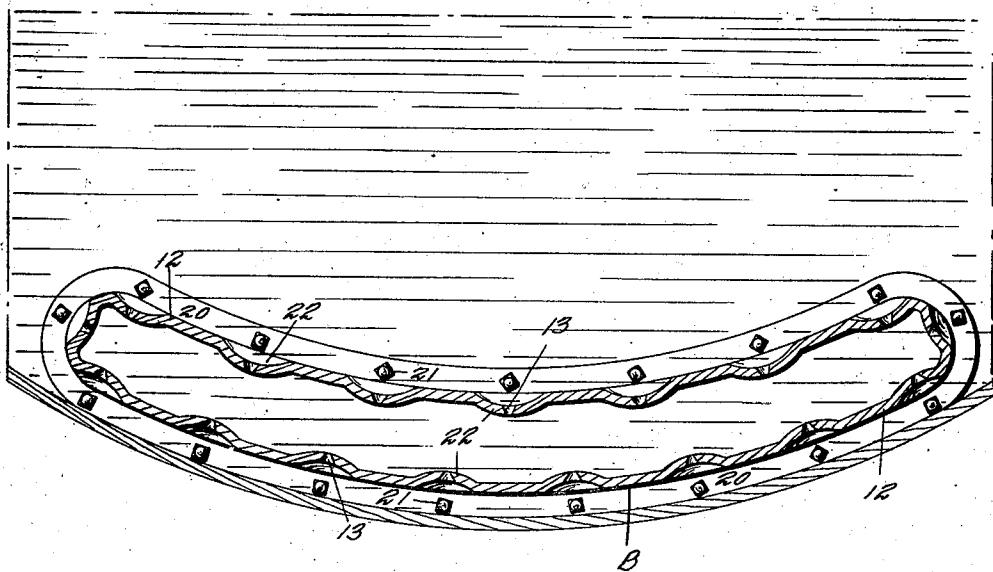


Fig. 5.

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1,616,372

UNITED STATES PATENT OFFICE.

EDWIN JANSON, OF WEBSTER CITY, IOWA.

BOILER-CLEAN-OUT DEVICE.

Application filed October 6, 1924. Serial No. 741,935.

The object of my invention is to provide a boiler cleanout device of simple, durable and comparatively inexpensive construction adapted to be placed inside of a boiler and arranged to serve as a catch plate upon which sediment may collect and thereafter be removed from the boiler through the cleanout device.

Still a further object is to provide a cleanout device comprising a flat chamber member arranged to conform to the bottom of the boiler itself and provided with a number of openings so positioned that upon the opening of a valve member in communication with the cleanout chamber, the escaping steam will carry with it all the muck and sediment in the boiler adjacent the cleanout chamber.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 is a central, sectional view taken through a steam boiler with my improved cleanout device installed therein and shown in section.

Figure 2 is a vertical, central, sectional view taken on the line 2-2 of Figure 1 showing the valve member for operating the clean out.

Figure 3 is an enlarged, detail, sectional view of one end of a boiler showing one end of my cleanout device; and

Figure 4 is a sectional view of a slightly modified form wherein the cleanout device is positioned above the bottom of the boiler itself.

Figure 5 is a sectional view through a boiler and cleanout device, the chamber of the cleanout device being shown as made up of a number of sections secured together.

Figure 6 is a detail, sectional view showing the portion adjacent the openings into the chamber as formed with a depression or pocket.

In the accompanying drawings, I have used the reference numeral 10 to indicate generally a boiler which is provided with the ordinary flues 11.

It is well known that in a steam boiler the sediment and muck will form on the

bottom of the boiler and it is desirable to remove such sediment and muck at various intervals and in order to do so, I provide a clean out chamber 12.

The clean out chamber 12 is curved in cross section so as to conform to the bottom of the boiler 10 and rest upon the bottom of the boiler.

The cleanout chamber 12 is comparatively flat and wide enough so that it covers the area upon which most of the sediment and muck will collect.

The muck and sediment will generally deposit itself upon the upper surface of the chamber 12 so that the chamber 12 serves as a catch plate for the sediment.

The chamber 12 is formed with a number of small funnel shaped openings 13, which are positioned in the side edges of the chamber as well as in the top plate of the chamber 12. The ends of the chamber are closed.

A pipe 14, having a valve 15 therein, is in communication with the chamber 12.

When it is desired to remove the sediment and muck from the boiler 10, all that is necessary is to open the valve 15 so that the pressure from within the boiler 10 will pass through the openings 13 into the chamber 12 and out through the pipe 14 carrying the muck and sediment with it.

By collecting the sediment adjacent the cleanout device or chamber 12, I am able to completely remove the sediment without disturbing the main portion of the contents of the boiler 10.

In Figure 4 of the drawings, I have shown a slightly modified form in which a cleanout chamber 16 is positioned upon supports 17 so that it rests above and is spaced from the bottom of the boiler 10.

The chamber 16, as shown in Figure 4, is provided with a plurality of cleanout openings 18, which are formed in the top, bottom and sides of the chamber 16.

A pipe 19 extends through the boiler 10 and is in communication with the chamber 16 and is controlled by a suitable valve (not shown) similar to the control for the pipe 14.

The chamber 16 is curved in cross section so that it forms a catch plate for the sediment and muck similar to the chamber 12.

In Figure 5 of the drawings, I have shown the chamber 12 as made up of a number of

longitudinal sections B. The sections B are placed side by side and may have upstanding flanges 20 thereon through which can be extended bolts 21 for anchoring the parts together. The sections B can be of any size depending upon the size of the manhole in the boiler itself. The results accomplished by the sectional cleanout chamber are the same as the single piece structure.

The openings 13 can be positioned in depressions 22 formed in the chamber or clean out adjacent such openings as clearly illustrated in Figure 6 of the drawings. The depressions 22 serve as a pocket and help collect the sediment in position adjacent the openings leading into the chamber itself.

The advantages of my structure reside in the fact that I have provided a curved in cross section catch plate for retaining the sediment until it is removed.

Some changes may be made in the construction and arrangement of the various parts of my invention, without departing from the real spirit and purpose of my in-

vention and it is my intention to cover by my claim, any modified forms of structure or use of mechanical equivalents, which may be reasonably included within its scope.

I claim as my invention:

In combination with a boiler, a clean out device comprising a chambered member positioned adjacent the bottom of the boiler and extending from the center thereof to points spaced on each side of the center whereby the major portion of sediment from water in the boiler will settle thereon, a plurality of openings in said chambered member, said openings extending through the walls of the chambered member from the interior surface to the exterior surface thereof, a valve controlled outlet therefrom whereby steam pressure in the boiler will cause said sediment to be expelled through said chambered member and from said outlet when said valve is open.

Des Moines, Iowa, September 18, 1924.

EDWIN JANSON.