

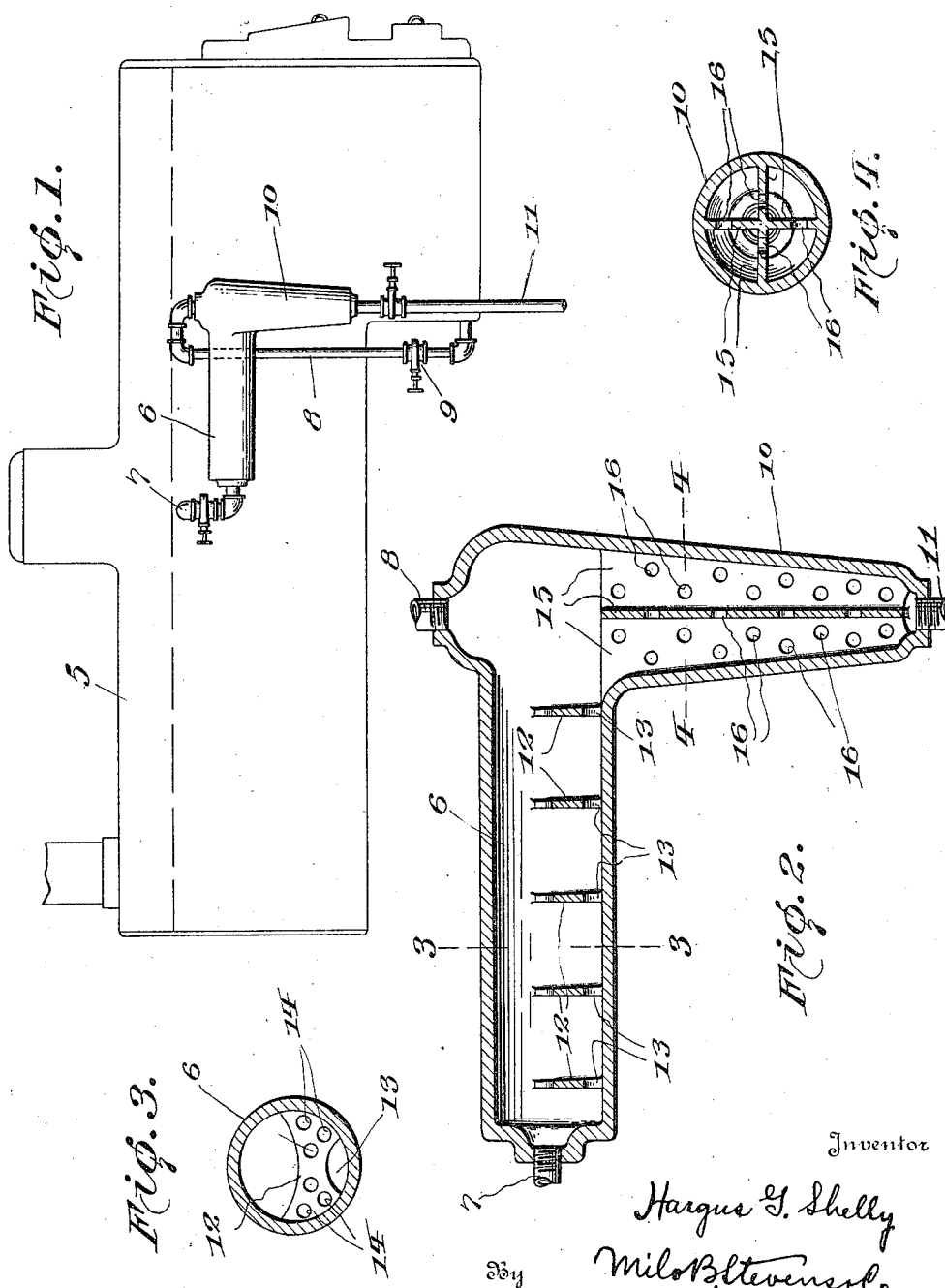
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H. G. SHELLEY

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BOILER CLEANER

Filed March 28, 1922



Inventor

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UNITED STATES PATENT OFFICE.

HARGUS G. SHELLY, OF MULVANE, KANSAS.

BOILER CLEANER.

Application filed March 28, 1922. Serial No. 547,476.

To all whom it may concern:

Be it known that I, HARGUS G. SHELLY, a citizen of the United States, residing at Mulvane, in the county of Sumner and State of Kansas, have invented new and useful Improvements in Boiler Cleaners, of which the following is a specification.

This invention relates to improvements in the boiler cleaner disclosed in Patent No. 794,015, dated July 4, 1905, the same consisting of a chamber through which the boiler water circulates, and in which scale and other impurities are precipitated.

The invention has for its object to simplify the construction and to increase the efficiency of the device, and to this end it consists in a novel combination and arrangements of parts to be hereinafter described and claimed.

In order that the invention may be better understood, reference is had to the accompanying drawing, wherein—

Figure 1 is an elevation of a boiler showing the connection of the device therewith; Fig. 2 is an enlarged central longitudinal section of the settling chamber, and Figs. 3 and 4 are cross-sections on the lines 3—3 and 4—4 of Fig. 2.

Referring specifically to the drawing 5 denotes the boiler to which the invention is applied, and as the structure of the boiler is immaterial to the invention, the same need not be described.

The settling or precipitation chamber consists of a horizontally positioned cylindrical vessel 6 having one of its ends connected with the water space of the boiler by means of a pipe 7, and having at its other end a return connection 8 with said water space, said connection being a pipe which is connected to the top of the vessel. Water from the boiler enters the vessel 6 through the inlet connection 7 and is allowed to flow back to the boiler through the connection 8. The connections 7 and 8 with the water space of the boiler are made at such points that water is taken from the boiler just below the normal water line, and is returned at the lowest part of the boiler, so that there is a continuous circulation of the boiler water through the vessel 6. In the connection 8 is interposed a valve 9.

At that end of the vessel 6 to which the return pipe 8 is connected, is a depending sediment collecting branch or well 10 which is in open communication with the interior

of said vessel, so that the water circulating therethrough also fills the well. To the bottom of the well is connected a valved blow-off pipe 11.

In the vessel 6 is located a series of vertical partitions 12 which are spaced from each other in the direction of the length of the vessel and rise from the bottom thereof but terminate short of the top. These partitions are baffle plates positioned vertically in the path of the water flowing from the inlet to the outlet end of the vessel, and they serve to retard the flow of water through the vessel, and to catch and deflect downwardly the particles of scale, dirt and other impurities present in the water, the same collecting behind the baffle plates. The partitions 12 forming these baffle plates have bottom openings 13 and smaller openings 14 above the same. The bottom openings 13 allow the dirt, etc. collecting behind the partitions to pass therethrough, and the dirt is gradually carried rearwardly to the well 10 and drops thereinto.

In the well 10 are also mounted four vertically positioned baffle plates 15 having perforations 16 and extending radially from the center, and from the top to the bottom of the well. These baffle plates serve to prevent eddies in the well, which is desirable, as otherwise the mud and dirt in the well would be continuously kept stirred up and prevented from settling. The water in the well is in a quiescent state, and the mud and dirt are therefore permitted to settle to the bottom. It will also be noted that the well has a downward taper so that its side wall is given a slant, which prevents mud and dirt from adhering thereto. The dirt, etc. collecting in the well can be blown out through the pipe 11 upon opening the valve of the latter.

The device is very simple and inexpensive, it can be easily installed, and it effectually serves the purpose for which it has been designed. The vessel or chamber 6, with the well 10 and baffle plates 12 and 15, can be a one-piece casting.

I claim:

1. A boiler cleaner comprising a horizontally disposed elongated vessel having an inlet connection at one end, the other end of said vessel terminating in a dome shaped enlargement, said enlargement having an outlet connection, a depending sediment collecting well forming a continuation of said

vessel and said enlargement, said enlargement and said well having downwardly tapering walls, a series of vertical, radially disposed perforated baffle plates in said well
5 and a series of vertical, transversely disposed baffle plates in said horizontally disposed vessel.

2. A boiler cleaner comprising a horizontally disposed elongated vessel having an
10 inlet connection at one end, the other end of said vessel terminating in an enlargement having an outlet connection, a depending

conical shaped sediment collecting well forming a continuation of said vessel and said enlargement, a series of transverse perforated baffle plates in said vessel, and a
15 series of vertical perforated baffle plates extending from the bottom of said well to a point flush with the bottom wall of said vessel and from the side walls of the well to
20 a point adjacent the center thereof.

In testimony whereof I affix my signature.

HARGUS G. SHELLY.