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P. H. GENTZEL

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OIL SEPARATOR

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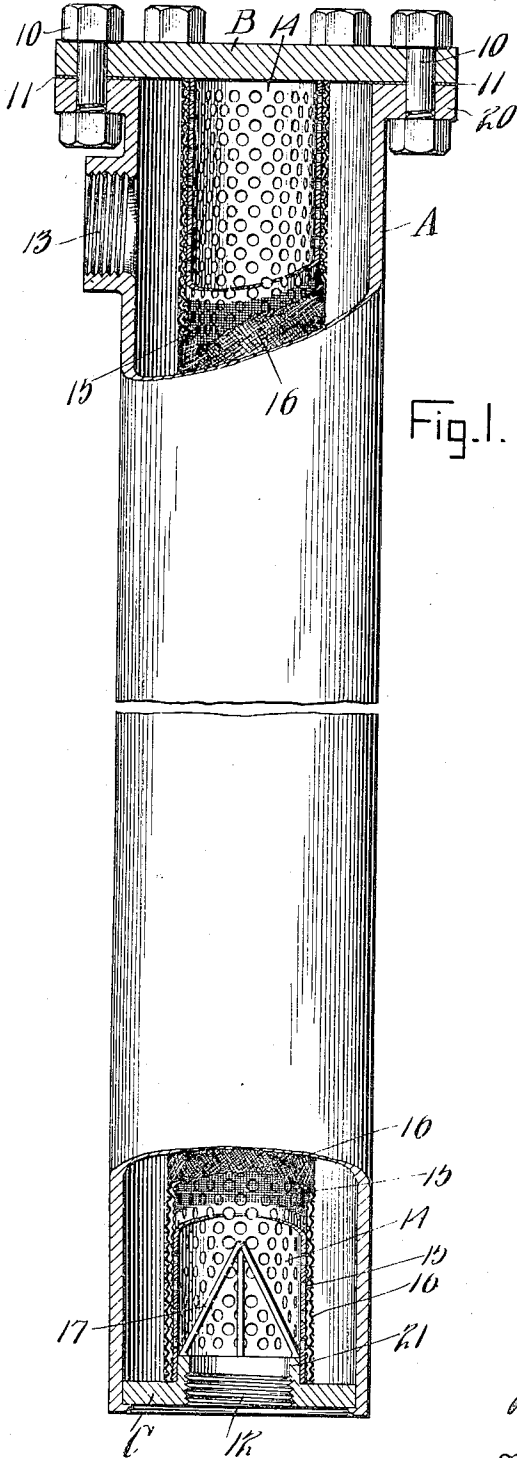


Fig. 1.

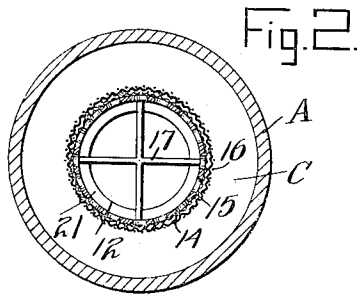


Fig. 2.

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By

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UNITED STATES PATENT OFFICE.

PERRY H. GENTZEL, OF NEWTON, MASSACHUSETTS.

OIL SEPARATOR.

Application filed October 13, 1919. Serial No. 330,179.

To all whom it may concern:

Be it known that I, PERRY HOMER GENTZEL, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Oil Separators, of which the following is a specification.

In the operation of steam power plants, particularly engines of the type employed in the operation of cars, wherein liquid fuel or hydrocarbon fuel is used for the generation of steam, the steam, after being used, is put through a condensing apparatus and then re-used. The water coming from the condenser is ordinarily laden with oil, picked up in the passage of the steam through the engine cylinders. The purpose of my said invention is to provide means for separating, or filtering out, said oil from the condensed water before passing it back to the boiler for the purpose of re-using, so that such water will be in better condition for using, all as will be hereinafter fully described and claimed.

Referring to the accompanying drawing, which is made a part hereof and on which similar reference characters indicate similar parts—

Figure 1 is a view of one of my improved filters, partly in elevation and partly in vertical section, and—

Figure 2 a cross section on the dotted line 2—2 in Figure 1.

In said drawings the portions marked A represent the filter casing; B, the head thereof; and C, the bottom thereof.

The casing A is preferably cylindrical in form, and has an annular flange 20 around its upper end to which the head B is bolted by means of bolts 10. An annular packing ring 11 is interposed between said flange and the head to form a water-tight joint.

The bottom C is likewise secured by a water-tight joint in the lower end of casing A, and has a central opening 12, perforated interiorly and screw threaded for attachment to a pipe leading to the boiler. It also has a boss 13 on one side near its upper end, which is perforated and interiorly screw

threaded for connection with the pipe leading from the condenser.

The filter proper comprises a central perforated tube 14, surrounded by a wire gauze screen 15, which in turn is surrounded by a thickness of linen terry cloth 16 of appropriate texture for the purpose. The filter thus constructed is centered and seated around a flange 21 surrounding the opening 12 in the bottom of the casing, and tapered guide frame 17, being mounted on the upper edge of said flange around said opening for the purpose of guiding the bottom of the filter to its seat. The upper end of the filter is seated against the head B and held in a central position thereby.

By this arrangement an annular chamber is provided in the casing A between said casing and the filter which communicates with the inlet opening 13 connected to the condenser.

The oil-laden water coming from the condenser through opening 13 fills the annular chamber, surrounding the filter, and filters or percolates through the terry cloth, the wire gauze and the perforated tube and passes out through the discharge opening 12 and a pipe connected therewith (not shown) leading to the boiler. The terry cloth takes up and collects the oil contained in the water except some of the kerosene, which passes with the water to the boiler, the water being thus adapted for re-use and the kerosene serving the purpose of preventing incrustation and deposits on the tubes and interior construction of the boiler.

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

A filter for removing oil from water passing from a condenser to the boiler of a steam power plant, comprising a casing having a head removable therefrom, said casing having an opening in its wall for communication with a condenser and another opening in the bottom of the casing for communication with a boiler, a filter mounted concentrically within the tube and spaced from the wall of the casing to form an annular chamber, said filter being closed at the top

by the head of the casing and in communication with the said opening in the bottom of the casing, a wire gauze screen covering said tube, and the wire gauze screen surrounded
5 by textile material in the nature of linen terry cloth, substantially as set forth.

In witness whereof, I have hereunto set

my hand and seal at Boston, Massachusetts, this 2nd day of September, A. D. nineteen hundred and nineteen.

PERRY H. GENTZEL. [L. s.]

Witness:

E. W. BRADFORD.