A. E. EMBREE.

OIL SEPARATOR.

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913,000. Patented Feb. 23, 1909.

Fig. 2.

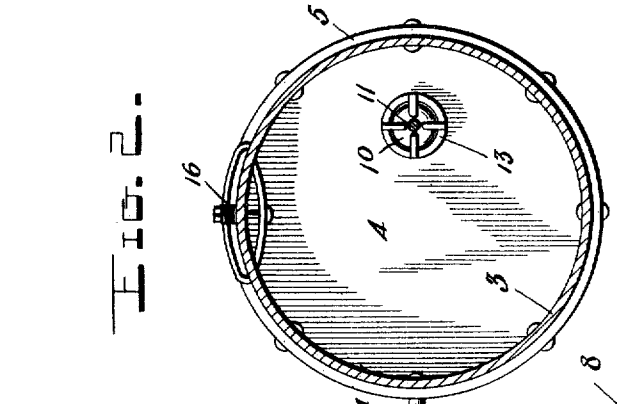
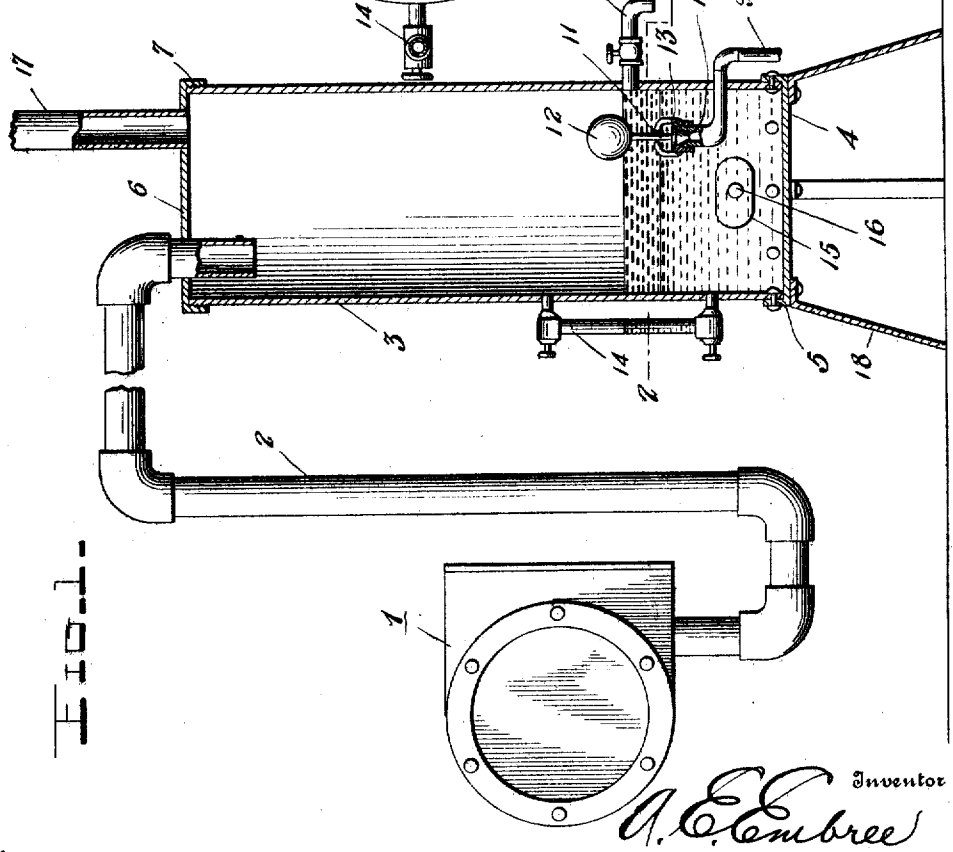


Fig. 1.



Witnesses

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AMOS E. EMBREE, BOISE, IDAHO.

OIL-SEPARATOR.

No. 913,000. Specification of Letters Patent. Patented Feb. 23, 1909.

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To all whom it may concern:

Be it known that I, AMOS E. EMBREE, a citizen of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Oil-Separators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in devices for separating oil from the exhaust steam of steam engines and for analogous uses.

The object of the invention is to provide a simple, inexpensive and practical device of the character in which the oil will be separated from the steam by reason of the expansion of the latter.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section through the improved oil separator showing its connection with the exhaust from an engine; and Fig. 2 is a horizontal section taken on the plane indicated by the line 2—2 in Fig. 1.

In the drawings 1 denotes a portion of an engine, 2 the steam exhaust pipe leading from the same and 3 the body of the improved oil separator. This body is in the form of a vertically disposed metal cylinder having a flanged lower end or head 4 riveted to its bottom, as shown at 5, and an upper head or top 6 provided with an internally threaded depending flange which is screwed upon the upper end of said body, as shown at 7. The steam exhaust pipe 2 projects through the top 6 of the body, which latter provides a chamber in which the steam may exhaust so that the oil and the water composing the steam will separate and collect upon the bottom of the body or chamber and since the oil is lighter than water it will float upon the same and may be drawn off through a faucet 8 arranged in one side of the body at a suitable distance from its bottom. The water is drawn off from the body through an outlet pipe 9, the inner end of which is controlled by a float valve 10. The latter is in the form of a plug valve arranged upon the lower end of an upright stem 11 carrying a float 12. Said valve 10 is guided in its movement toward and from its seat by a cage 13 in which it is arranged. Upon the outside of the body 3 is provided a gage glass 14 to indicate the level of the water and in said body, adjacent to its bottom may be provided a hand hole 15 which will permit the interior of the body to be readily cleaned. The hole 15 is covered by a suitable closure 16.

17 denotes an outlet or exhaust pipe leading from the top 6 of the body and 18 denotes a plurality of supporting legs carried by the bottom 4 for supporting the device above the floor or other support.

Having thus described the invention what is claimed is:

1. An oil separator comprising an expanding and separating chamber having an outlet and an inlet to receive the exhaust steam, means for drawing off the oil from said chamber, a water outlet pipe extending into the lower portion of the chamber and having an upturned end formed with a cone-shaped valve seat and an externally screw threaded portion, a cone-shaped valve, a stem projecting upwardly from the top of the valve, a float upon the upper end of said stem, and a guide for the valve stem and comprising an internally screw threaded sleeve engaged with the threaded portion of the upturned end of the water outlet pipe and formed at its top with upwardly and inwardly projecting guide fingers to slidably receive the valve stem between their spaced upper ends, substantially as described.

2. The herein described oil separator comprising a cylinder expanding and collecting chamber, a downwardly projecting exhaust steam inlet pipe extending through the top of the same, an upwardly projecting outlet pipe projecting from the top of said chamber, supporting legs at the bottom of said chamber, a sight gage for indicating the level of liquid in the chamber, a faucet for drawing off the oil from said chamber, a water outlet pipe extending into the bottom portion of the chamber and having an upturned end formed with a cone-shaped valve seat and with an externally screw threaded portion, a cone-shaped valve, a stem projecting from the top of the valve, a float upon the top of

said stem, and a guide for the valve stem and consisting of a sleeve screwed upon the threaded portion of said upturned end of the water outlet pipe and formed at its top with upwardly and inwardly projecting fingers to slidably receive the valve stem between them.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

AMOS E. EMBREE.

Witnesses:
C. M. BANTA,
F. J. GARVER.