

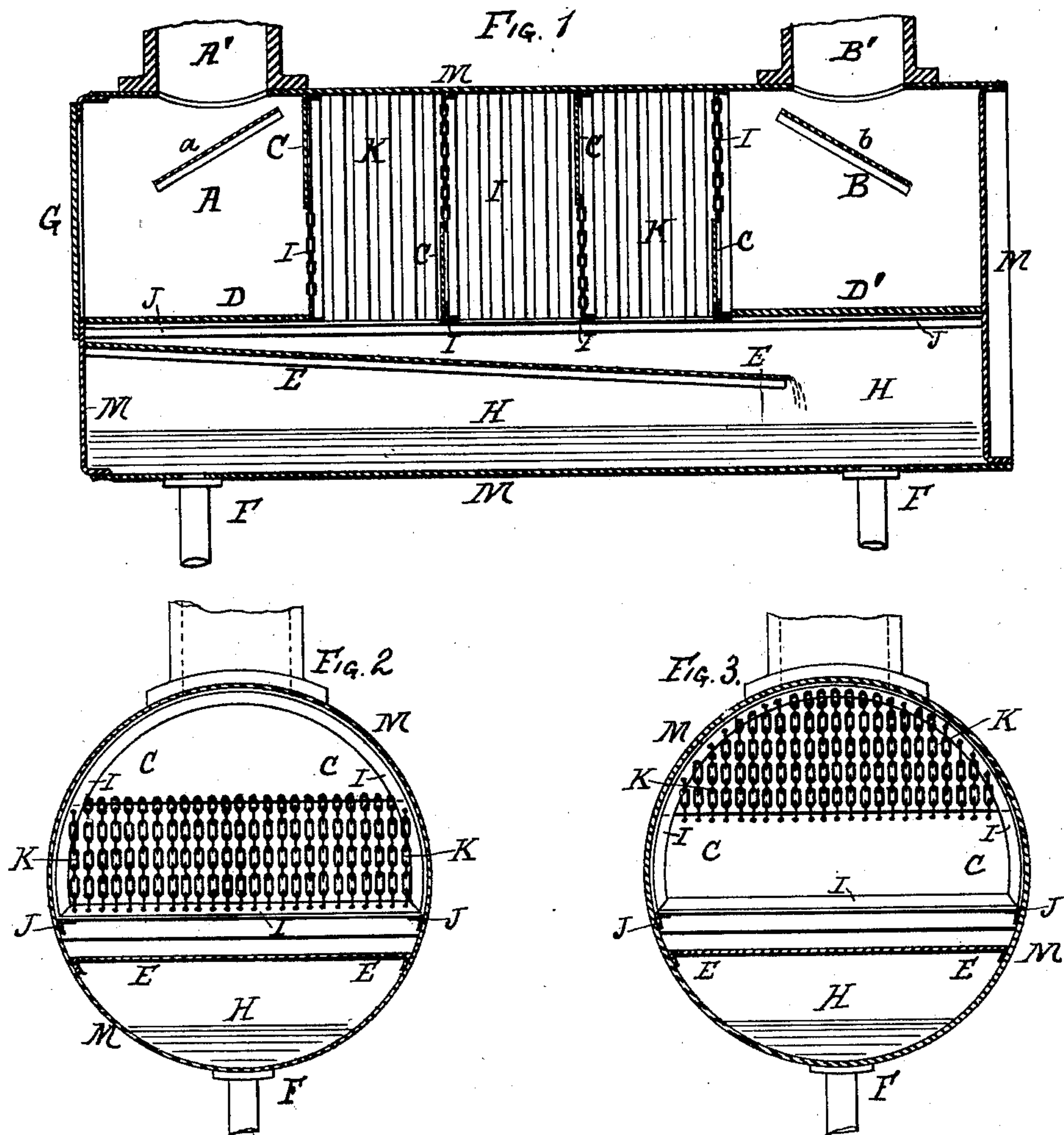
No. 731,953.

PATENTED JUNE 23, 1903.

G. I. ROBERTS.
STEAM SEPARATOR.

APPLICATION FILED MAR. 9, 1903.

NO MODEL.



WITNESSES:-

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UNITED STATES PATENT OFFICE.

GEORGE ILSLEY ROBERTS, OF NEW ROCHELLE, NEW YORK.

STEAM-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 731,953, dated June 23, 1903.

Application filed March 9, 1903. Serial No. 146,882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ILSLEY ROBERTS, a citizen of the United States, residing in New Rochelle, Westchester county, and State of New York, have invented certain new and useful Improvements in Steam-Separators, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to and has for its object the construction of a separator specially adapted to the extraction and withdrawal of all contained grease, oil, water, or any foreign matter or material from the low-pressure exhausts of condensing-engines, more particularly those of high speed of piston and revolution, while it is passing from the engine-cylinder to the connected condenser.

My improvements consist in the special construction, arrangement, and combination of the several parts or portions comprising the apparatus, as hereinafter shown, described, and claimed.

In the accompanying drawings, Figure 1 represents a central longitudinal section of an apparatus embodying my improvements. Figs. 2 and 3 represent transverse sections showing the method of applying the partition guide-plates to the baffle-sections.

Similar letters of reference designate like parts or portions in all the detail figures.

Within a main containing-shell are located upper steam-receiving and steam-discharging compartments A and B, provided with inlet and outlet nozzles A' and B'. Between these two end compartments A and B is located a separating-compartment K, supplied with baffling devices I, preferably those described in my Patent No. 587,560, for the extraction of any grease, oil, water, and any foreign or refuse matter or material from the exhaust-steam while passing therethrough, said compartment K communicating at its ends with the steam-receiving and steam-delivery compartments A and B.

C designates a plurality or series of partition guide-plates forming the dividing-walls between the baffle-compartment K and steam-compartments A and B, also the inner divisional guide-plates for controlling the move-

ment of the treated steam while passing through the baffling devices.

J designates supporting-strips, preferably of angle-iron, fastened longitudinally to the sides of the shell M to carry the floor-plates D and D' of compartments A and B, also to carry the removable baffle devices I.

G designates a removable plate or cover to provide for admission to remove or clean the baffling devices and other detail parts or portions.

E designates an inclined drain or plate located in the upper portion of a lower compartment H, within which compartment is received all the separated grease, oil, water, or foreign matter and material dripping from the plates, baffling devices, and sides of the separating-compartment K.

F designates a pair of drain connections, through and by means of which the accumulated grease, oil, or refuse matter in compartment H is withdrawn.

In the use and operation of the device as illustrated the steam from engine-exhaust enters compartment A through nozzle A'. From the lower portion of compartment A it passes to compartment K, through which it moves with an obstructed and undulating motion until it reaches compartment B, into which it enters to pass out at nozzle B' on its way to the condenser. The refuse or separated matter passes down by gravity from the baffling devices of compartment K and drips onto the inclined drain E, whence it falls to the bottom of compartment H for removal.

It will be evident upon examination that the above movement and action may be reversed, allowing the engine-exhaust to enter the shell at B' and pass out at A'.

In the several figures of the drawings the partitions or guide-plates C are shown attached to or forming a part of the baffling devices I as a means of economy in construction and to facilitate their removal. They may, however, be kept separate from the baffling-frames and applied or fitted to the shell M independent of and apart from these frames. The object being to give the steam an undulating and rolling motion while passing through the separator, a diagonal partition

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 5 *a* or *b*, located in each of the end receiving and delivering compartments, is preferably made use of to control the movement of the steam or vapor while being drawn through by the condenser-vacuum.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a steam-separator, in combination with the separator-compartment, a series of transverse baffle devices located therein, and an associated series of partition guide-plates, each of which is located to close the upper or lower portions of any one of said baffle devices, substantially as and for the purposes set forth.

2. In a steam-separator, in combination with the separator-compartment, a plurality of transverse baffle devices located therein a number of which are partially closed by having partition guide-plates attached thereto the balance of the space being provided with independently-suspended chains across the same, substantially as shown and described.

3. In a steam-separator, the combination of upper steam-receiving and steam-discharging compartments, an intermediate separating-compartment provided with a series of

baffle devices located therein, a series of associated partition guide-plates, and a lower refuse-receiving compartment, substantially as shown and described.

4. In a steam-separator, the combination of upper steam-receiving and steam-discharging compartments, an intermediate separating-compartment provided with a series of baffle devices located therein, a series of associated partition guide-plates, a lower refuse-receiving compartment, and an inclined drain located in the upper part of said refuse-compartment, substantially as shown and described.

5. In a steam-separator, the combination of upper steam-receiving and steam-discharging compartments, diagonal partitions located in each of said compartments, an intermediate separating-compartment provided with a series of baffle devices located therein, a series of partition guide-plates, and a lower refuse-receiving compartment, substantially as shown and described.

GEORGE ILSLEY ROBERTS.

Witnesses:

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