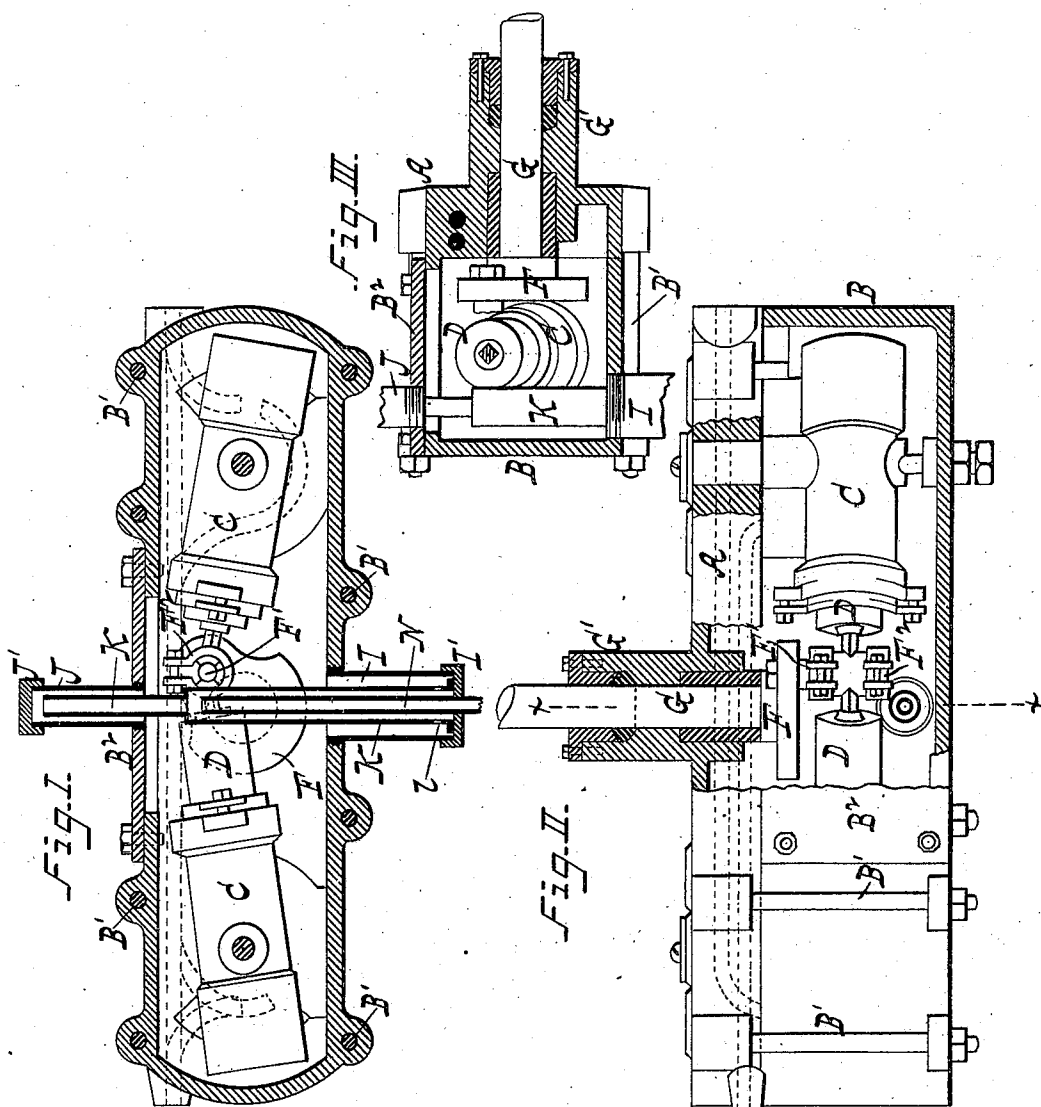


(No Model.)

M. H. DELANY.
OSCILLATING ENGINE.

No. 501,994.

Patented July 25, 1893.



WITNESSES:

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OSCILLATING ENGINE.

SPECIFICATION forming part of Letters Patent No. 501,991, dated July 25, 1893.

Application filed October 7, 1892. Serial No. 448,166. (No model.)

To all whom it may concern:

Be it known that I, MILES H. DELANY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Oscillating Engines, of which the following is a specification.

My invention relates especially to that class of oscillating engines in which the working parts are inclosed within a box or casing for protecting such parts against dust, &c., and permitting the water of condensation of steam escaping from the cylinders to be utilized as a vehicle for oil for lubricating the parts by retaining the water at a fixed level in the casing.

My invention consists of certain novel features of construction for permitting a discharge of the surplus water of condensation at a point from below the casing and of live steam at a point from above the casing, as hereinafter more fully described.

In the accompanying drawings Figure 1. represents a partial vertical longitudinal section and partial side elevation of an oscillating engine embodying my invention. Fig. 2. represents a partial top view and partial horizontal section thereof. Fig. 3. represents a vertical cross section thereof on the line $x-x$ Fig. 2.

Similar letters of reference indicate similar parts.

The letter A indicates the bed of the engine forming also a part of the casing, and B indicates a shell forming the remainder of the casing, these shells being fastened to the bed, usually by screw bolts B' at the top and bottom thereof.

C indicates the engine cylinders, D the piston fitted therein, and F a crank having a wrist pin F' to which both pistons are joined by a suitable coupling F² for imparting the required motion to the crank, the latter being fixed to the engine-shaft G, which is mounted in a suitable bearing G' of the bed. The cylinders C with their pistons D as well as the crank F and concomitant parts are inclosed in the casing formed by the bed A and shell B and the water of condensation arising from a leakage of steam from the cylinders accumulates in the casing so that it may be

utilized as a vehicle for oil for lubricating the working parts as for example the crank pin F' and its coupling; the water being kept at a fixed and predetermined level by the means to be next described.

To the bottom of the shell B, of the casing is connected the upper end of a vertical pipe I having a cap I' at its other or lower end and to the top of such shell is connected the lower end of a similar pipe J having a cap J' at its upper end, each of these pipes coinciding with the other as to its axis. The pipe I with its cap forms a water chamber in the bottom of the casing, while the pipe J with its cap, forms a steam chamber in the top of the casing, and at a point concentric with said two pipes is a third pipe K serving to discharge water and steam from the respective chambers. The discharge pipe K rests on the cap I' of said water chamber, it being usually fastened thereto whence said pipe extends upward to a point near the top of the steam chamber J, and said pipe is open at both ends, its lower end-opening being formed by perforating the same, as at l , near the lower end. Within the discharge pipe K is another pipe N, which extends from a point intermediate of the top and bottom of the casing, downward through the cap I' of the water chamber, is supported by that means and which forms primarily an overlap pipe for the water.

The portion of the shell B of the casing, receiving the pipe J of the steam chamber, is a cap-plate B² which is fitted on an opening in the top of the shell serving to afford access to the interior of the casing.

It will be readily understood that the level of the water in the casing is determined by the position of the upper end of the overflow pipe N while any live steam above the water also passes off through said pipe from the discharge pipe.

The chambers I, J, have the effect of causing the discharge of water from below and of steam from above the casing, and by this means such discharge is maintained without affecting the oil floating on the water.

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

In an oscillating engine herein shown the

combination with the shell B forming part of a casing inclosing the working parts, of a water chamber, formed on the bottom of said casing, to extend below the bottom, a steam
5 chamber formed on the top of the casing, a water and steam discharge pipe K open at both ends, extending from the base of said water chamber to the upper part of said steam chamber, an overflow pipe N within the discharge pipe, extending through the base of said water chamber, substantially as and for the purpose described.

MILES H. DELANY.

Witnesses:

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