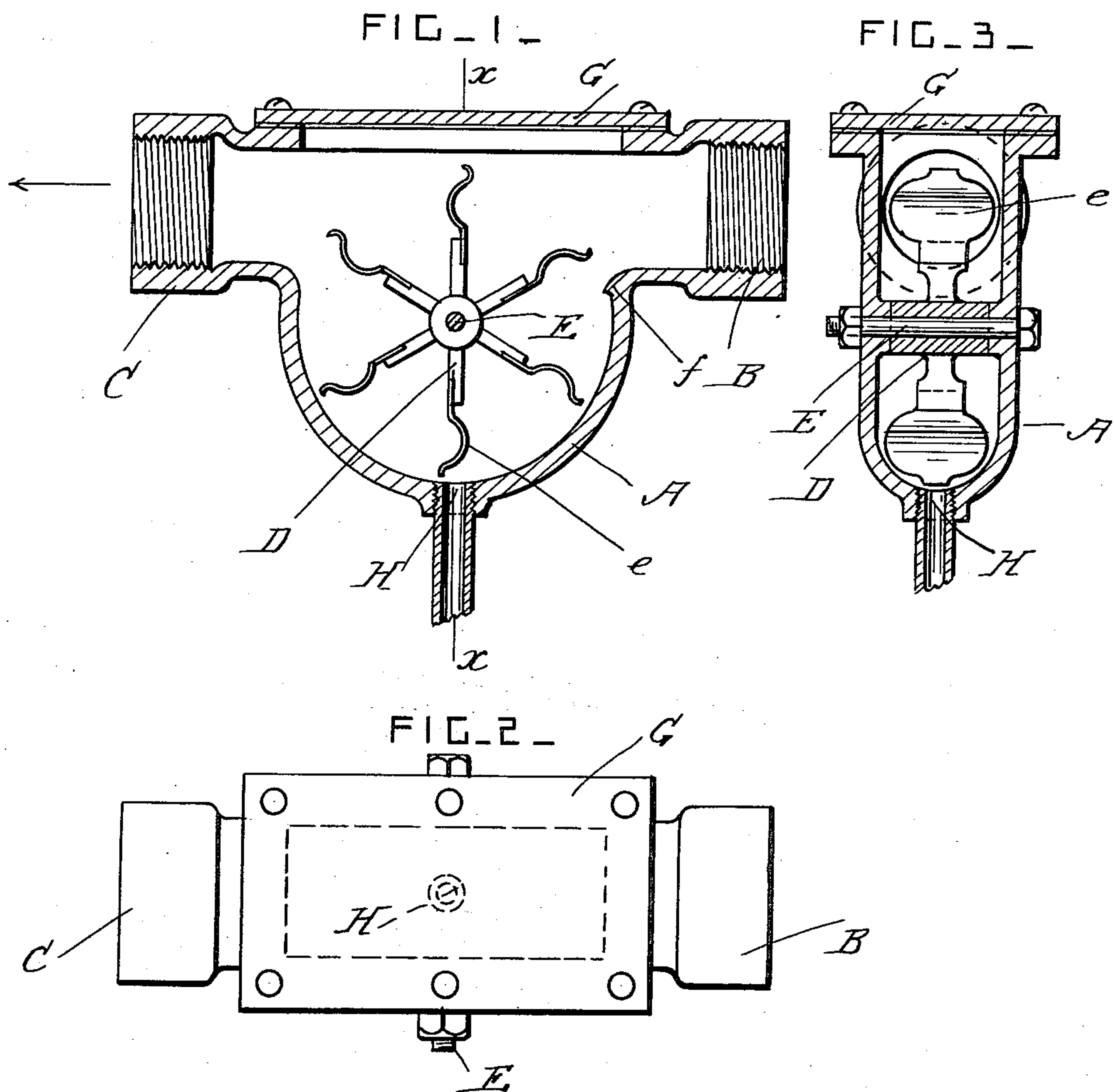


No. 861,362.

PATENTED JULY 30, 1907.

L. V. ESTES & R. W. WELLS.
APPARATUS FOR ATOMIZING OIL.

APPLICATION FILED JAN. 7, 1907.



WITNESSES:

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LORING V. ESTES AND ROBERT W. WELLS, OF VALLEJO, CALIFORNIA.

APPARATUS FOR ATOMIZING OIL.

No. 861,362.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed January 7, 1907. Serial No. 351,219.

To all whom it may concern:

Be it known that we, LORING V. ESTES and ROBERT W. WELLS, residing at Vallejo, in the county of Solano and State of California, have invented certain new and useful Improvements in Apparatus for Atomizing Oil; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for atomizing oil or other liquid; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through the apparatus. Fig. 2 is a plan view of the apparatus. Fig. 3 is a cross-section through the apparatus, taken on the line $x-x$ in Fig. 1.

A is a casing provided with an inlet B and an outlet C. The inlet and outlet are preferably arranged in line with each other at the opposite sides of the casing and inlet and outlet pipes are preferably provided and are screwed to or otherwise secured to the casing in any approved manner.

D is a wheel provided with arms or blades like a rotary fan. This wheel is journaled in the casing and is arranged to one side of the inlet and outlet.

E is the shaft upon which the wheel is mounted, and e are the blades which are preferably corrugated.

A lip f is formed on the casing close below the inlet opening and it projects towards the wheel so that the tips of the blades just clear it as the wheel is revolved.

The inlet and the outlet are preferably arranged horizontally and at the upper part of the casing, and the casing is provided with a removable cover G at its top to afford a means for inserting and removing the wheel.

H is the inlet for oil or other liquid to be atomized. This oil inlet is provided with a suitable oil pipe and it is preferably arranged at the bottom of the casing A. Air, steam, or other gas, is forced through the casing from the inlet to the outlet, so that the wheel is re-

volved rapidly by the fluid. Oil or other liquid is fed into the lower part of the casing and is caught by the wheel and carried up into the air current by the corrugated blades. The oil is discharged into the air current by the blades and is atomized by the current, those portions of the oil which are not atomized falling back into the lower part of the casing, and being again raised by the wheel.

This device is specially intended for atomizing heavy and crude hydrocarbon oils so that they may be used as fuel in furnaces. No burner is required with this device, but the inlet pipe is preferably provided with any approved valve or other means for regulating the blast of air, and the oil pipe is also preferably provided with a regulating valve. These valves are not shown in the drawings, as they are of any approved construction. This apparatus may also be used to atomize other liquids besides oil, and may be applied to any purpose for which it is applicable.

What we claim is:

1. In an oil atomizer, the combination, with a casing provided at its upper part with an inlet and an outlet having a straight blast-passage between them, said casing having also an oil inlet at its bottom, of a wheel provided with blades and arranged to revolve on a horizontal axis in the middle part of the casing between the said blast-passage and oil-inlet with its upper part projecting into the said blast-passage and with the tips of its blades in close proximity to the said oil-inlet.

2. In an oil atomizer, the combination, with a casing provided with an inlet and an outlet for the blast at its upper part, and having also an inlet for oil at the middle part of its bottom, of a wheel comprising a central hub and laterally corrugated blades secured to the said hub, said wheel being journaled in the said casing over the said oil inlet with its upper part projecting upwardly between the said blast inlet and outlet.

In testimony whereof we affix our signatures, in presence of two witnesses.

LORING V. ESTES.
ROBERT W. WELLS.

Witnesses:

WILLIAM H. MCCRYSTLE,
MICHAEL CALLAHAN.