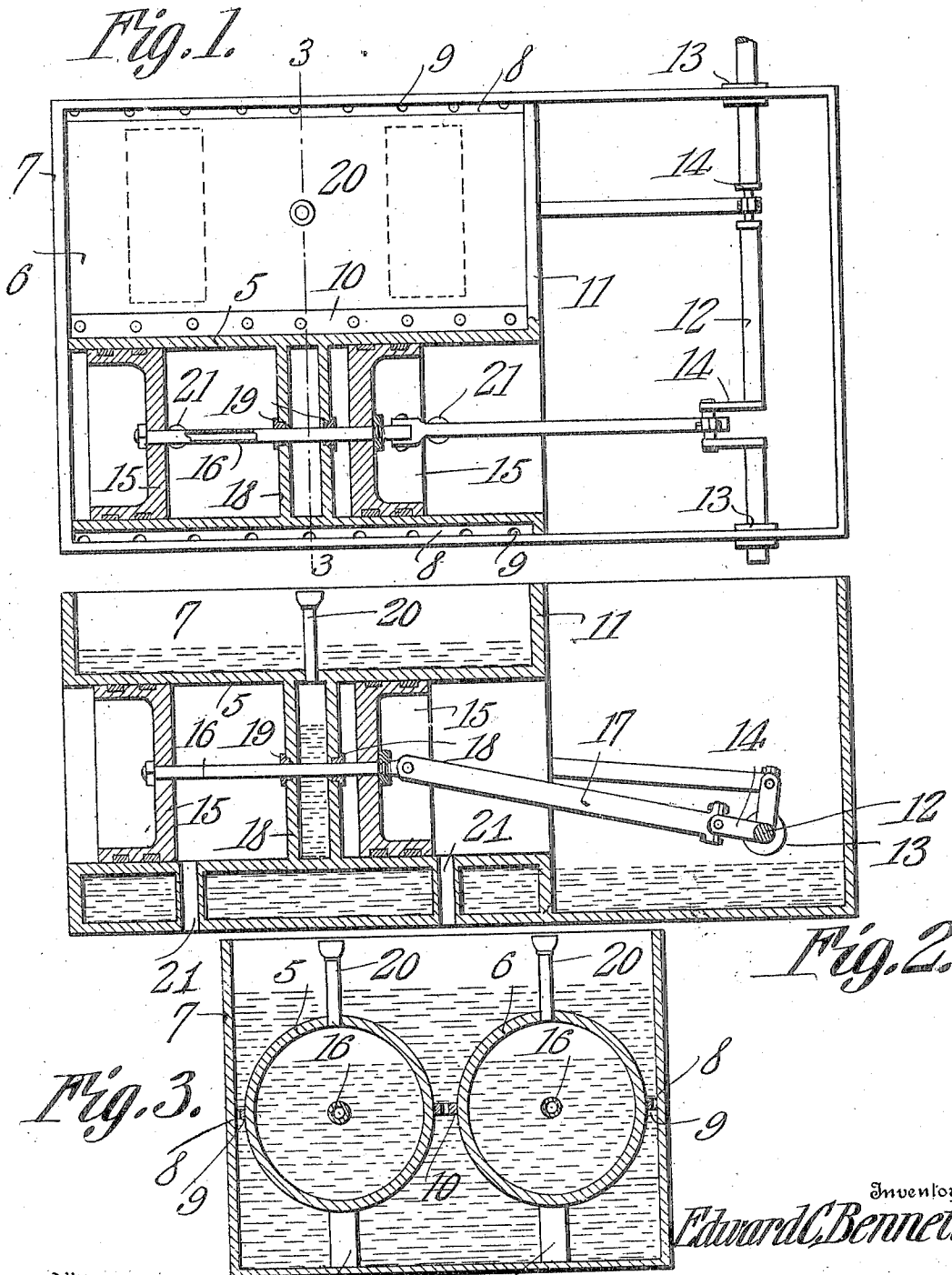


E. C. BENNETT.
INTERNAL COMBUSTION ENGINE.
APPLICATION FILED AUG. 31, 1909.

948,103.

Patented Feb. 1, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD C. BENNETT, OF WORMLEYSBURG, PENNSYLVANIA.

INTERNAL-COMBUSTION ENGINE.

948,103.

Specification of Letters Patent.

Patented Feb. 1, 1910.

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To all whom it may concern:

Be it known that I, EDWARD C. BENNETT, a citizen of the United States, residing at Wormleysburg, in the county of Cumberland and State of Pennsylvania, have invented a new and useful Internal-Combustion Engine, of which the following is a specification.

This invention relates to multiple cylinder internal-combustion engines in which each cylinder contains a pair of pistons which travel in the same direction on opposite sides of a partition in the cylinder, which partition divides the cylinder into two independent combustion chambers, the pistons of the respective cylinders being connected to a single piston rod.

The invention has for its object to provide the engine with improved means for cooling the cylinders, and also to provide the partitions in the cylinders with an oil reservoir in which the connecting rods between the pistons travel, thereby keeping the same lubricated.

With the foregoing objects in view, the invention consists in the novel construction and arrangement of parts to be hereinafter described and claimed reference being had to the drawing hereto annexed, in which,

Figure 1 is a plan view of the engine, one of the cylinders being shown in section. Fig. 2 is a central longitudinal section taken through one of the cylinders. Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

In the drawing, 5 and 6 denote the two cylinders, which are cast, integral preferably, with a tank 7 adapted to contain a cooling medium, such as water. The cylinders are spaced at their sides and bottoms from the side walls and the bottom of the tank, so that they can be completely immersed in the water. Webs 8 connect the side walls of the cylinders to the side walls of the tank, and these webs have perforations 9 so that the water may circulate around the cylinders. The two cylinders are also connected by perforated webs 10. The cylinders are open at both ends, their rear ends opening through the rear wall of the tank, and their front ends opening through a partition 11 in the tank.

Through the space between the partition 11 and the front wall of the tank, the crank shaft 12 extends, the side walls of the tank having bearings 13 in which said shaft is

supported. This portion of the tank is adapted to contain a lubricant, which is maintained at such a level therein that the cranks 14 may dip thereto, and thus splash the oil on the parts to be lubricated.

In each cylinder works a pair of pistons 15 which are connected by a rod 16 so that they may travel together in the same direction. The rod is hollow whereby it is prevented from becoming heated. The rod extends through the front piston, and has pivotally connected to it the piston rod 17.

In the cylinders, midway between the ends thereof, are located partitions 18 which divide the cylinders into two independent combustion chambers, in each of which a piston works, the pistons being located on opposite sides of a partition. In the partitions are openings through which the rods 16 extend and in order to lubricate said rods, the partitions are made hollow and receive a lubricant. The rods work through the lubricant, and are therefore kept perfectly lubricated. The outer ends of the openings in which the rods work, are provided with stuffing boxes 19 which prevent leakage of oil into the combustion chambers. The lubricant chambers formed in the partitions 18 are entered by supply pipes 20, which pass through the cylinder walls, and rise a suitable distance above the water level in the tank, so as to prevent the entrance of water into the lubricant chambers.

In the cylinder walls are exhaust openings which communicate with pipes 21 opening through the bottom of the tank said pipes being preferably formed integral with the cylinders and the tank.

The fuel feed, charge igniting device, valve mechanism, and kindred parts have not been shown as they form no part of the present invention.

What is claimed is:—

1. In an engine, a tank containing a cooling medium, and having a compartment to receive a lubricant, a cylinder in the tank, a piston working in the cylinder, and a crank shaft connected to the piston, and having its crank located in the aforesaid compartment, and dipping into the lubricant.

2. In an engine, a tank containing a cooling medium, a cylinder in the tank, a partition in the tank extending across the front end of the cylinder, that portion of the tank between said partition and the front wall of

the tank being adapted to contain the lubricant, and a crank shaft journaled in the side walls of the tank between the partition and the front wall of the tank, and having its
5 crank dipping into the lubricant.

3. In an engine, a tank containing a cooling medium, a cylinder in the tank spaced from the side walls and the bottom thereof, a partition in the tank extending across the
10 front end of the cylinder, and perforated

webs extending between the cylinder and the side walls of the tank.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD C. BENNETT.

Witnesses:

HARRY BAKER,
JOHN E. HEPFER.