April 18, 1933. G. C. CAPPA 1,903,979

AIR COOLED INTERNAL COMBUSTION ENGINE

Filed Aug. 22, 1930

Fig. 1

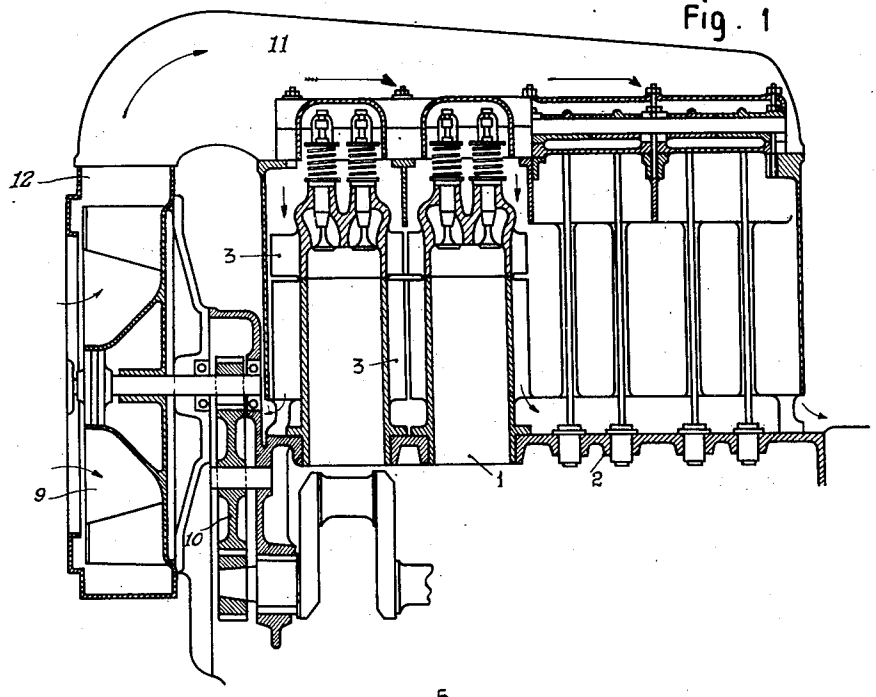


Fig. 2

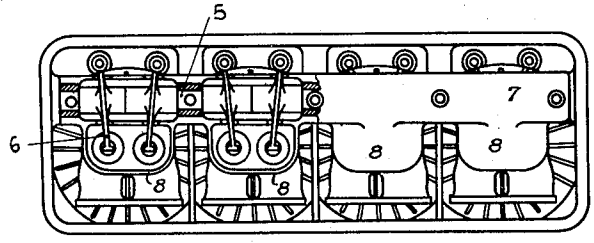
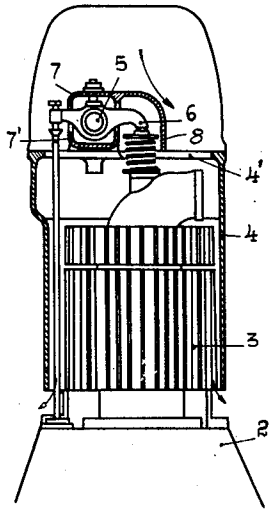


Fig. 3



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UNITED STATES PATENT OFFICE

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AIR-COOLED INTERNAL COMBUSTION ENGINE

Application filed August 22, 1930, Serial No. 477,102, and in Italy August 29, 1929.

In air-cooled internal combustion engines which are generally provided with separate cylinders enclosed in a jacket for the forced air circulation, the operation of the overhead valves meets with considerable difficulties, more particularly when it is desired to arrange the parts in a position allowing them to be easily dismantled and inspected, as is the case with ordinary monoblock water-cooled engines.

This invention relates to a special arrangement of the valve gear members and its object is to facilitate and simplify the mounting of said members, which are moreover efficiently lubricated in an oil bath and protected against the direct action of the cooling air stream.

The annexed drawing shows by way of example a constructional form of an arrangement according to this invention.

Figure 1 is a diagrammatic longitudinal section of an air-cooled engine.

Figure 2 is a plan view thereof, the upper engine portion being removed.

Figure 3 is a cross section of the engine.

Referring to the drawing, the engine cylinders 1 are separately arranged on the casing 2 and are provided on their outer surfaces with a plurality of cooling fins 3.

Air is blown by a fan 9 driven by the engine through appropriate gearing 10, and is conducted to the engine cylinders 1 by a hood 11 connected with the fan outlet 12.

The cylinders are enclosed in an ordinary jacket 4 having above at a suitable height a machined surface 4′ carrying a spindle 5 to which the rocking levers 6 operating the valves are articulated.

Said spindle with its rocking levers is arranged in a supporting and protecting box 7 which prevents the lubricating oil therein contained from being carried along by the forced air current and allows the rocking levers to work in an oil bath. Said box is provided with openings 7′ through which pass the ends of the rocking levers and carries in correspondence with the valves of each cylinder suitable protecting caps 8 protecting the valve stems and their springs and maintaining them properly lubricated. By the arrangement according to this invention the operating members for the overhead valves although easily inspected and removed are thoroughly protected against the circulating air which is particularly strong in this point, preventing it to carry along any oil.

What I claim is:

1. In an air-cooled internal combustion engine with overhead valves, a fan, a jacket surrounding the engine cylinders, a horizontal supporting plane at the upper end of said jacket, a hood mounted on said plane and closing the upper part of said jacket, said hood communicating with the outlet of said fan and a support for the valve operating means mounted on said supporting plane within said jacket and hood.

2. In an air-cooled internal combustion engine with overhead valves, a fan, a jacket surrounding the engine cylinders, a single horizontal supporting plane at the upper end of said jacket, a hood mounted on said plane and closing the upper part of said jacket, said hood communicating with the outlet of said fan, a support in the form of a box mounted on said supporting plane inside the hood, a spindle secured in said box, rocking levers loosely mounted on said spindle for operating the valves of said engine and caps projecting from said box to protect said rocking levers and said valves.

In testimony that I claim the foregoing as my invention, I have signed my name.

GIULIO CESARE CAPPA.