N° 7316 A.D. 1911

Date of Application, 23rd Mar., 1911—Accepted, 6th July, 1911

COMPLETE SPECIFICATION.

Improvements in or relating to Lubrication Mechanism.

I, VINCENZO LANCIA, Manufacturer, of 31, Via Petrarca, Turin, Italy, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—.

This invention relates to a device by means of which it is possible to do without the special pump ordinarily used in combustion engines for forced lubrication, by utilising for the purpose a pair of toothed wheels of the valve or other mechanism.

It has previously been proposed to surround two bevel wheels, forming part of the valve-driving gear of a fluid pressure engine, with a casing connected to oil suction and delivery pipes, the suction pipe being situated near a point on the circumference of one of the bevel wheels 90° distant from the point of engagement of the two wheels.

A construction according to this invention is illustrated by way of example in the accompanying drawing. The oil pump in this construction is constituted by the pair of toothed wheels transmitting motion from the driving shaft to the cam shaft. Figure 1 shows diagrammatically the said construction.

Figure 2 is an end view partly in section on an enlarged scale, and

Figure 3 a longitudinal section through the wheel axles.

As shown in Figure 3, the pinion 1 secured to the crank shaft 3 of the engine, and the pinion 2 mounted on the cam shaft 4, are enclosed in an air tight manner in the chamber 5 by the cover 6.

A packing 7 prevents any communication between the said chamber and the bearings of the driving shaft 3.

Opposite the point where the wheels 1 and 2 engage with each other, the chamber is provided with lateral widened portions 8 and 9 (Figures 1 and 2) the first of which is connected to the oil suction pipe 8^1 whilst the second one is connected through the hole 10 to the conduit distributing the oil to the different parts to be lubricated.

Thus, the two wheels 1 and 2 rotating in the direction shown by the arrows in Figure 2, constitute a kind of an ordinary pump with toothed wheels, drawing oil from the conduit 8^1 in order to force it into the chamber 9 and then into the oil conduit.

Of course, in place of the toothed wheels controlling the cam shaft, the toothed wheels transmitting motion to the magneto or to the water circulating pump, could be utilised as an oil pump in the same way, with obvious modifications.

In any case, this construction renders unnecessary a separate pump for forced lubrication and results in a considerable economy of space.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Forced lubrication mechanism for internal combustion engines, comprising a pair of toothed wheels of the distributing gear, and an air tight chamber

[*Price 8d.*]

enclosing said wheels and communicating with an oil suction conduit and an oil delivery conduit substantially as and for the purpose described.

2. The forced lubrication mechanism substantially as described or as illustrated in the accompanying drawing.

Dated this 23rd day of March, 1911.

BOULT, WADE & TENNANT,
111 & 112, Hatton Garden, London, E.C.,
Chartered Patent Agents.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1911.

A.D. 1914. March 23. No. 7316.
LANCIA'S Complete Specification.

(1 SHEET)

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1

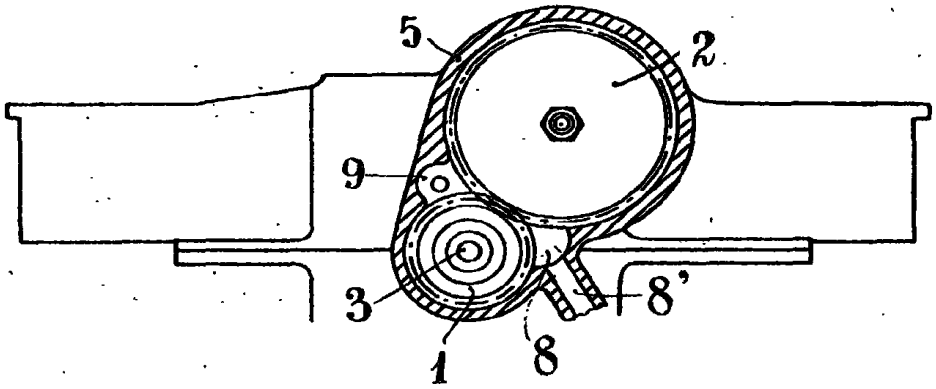


Fig. 2

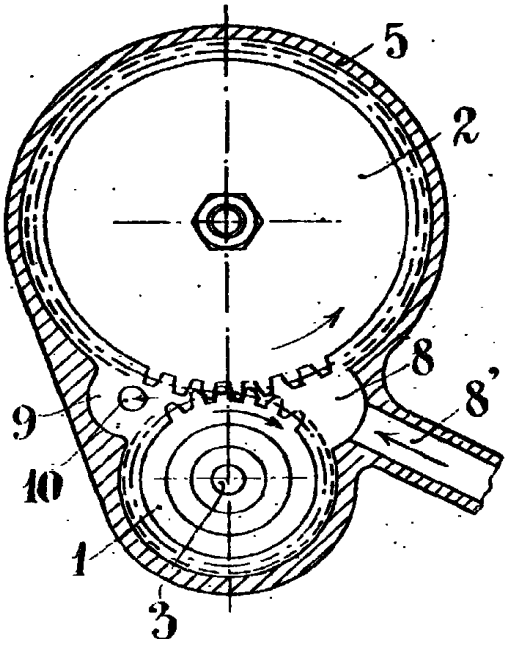
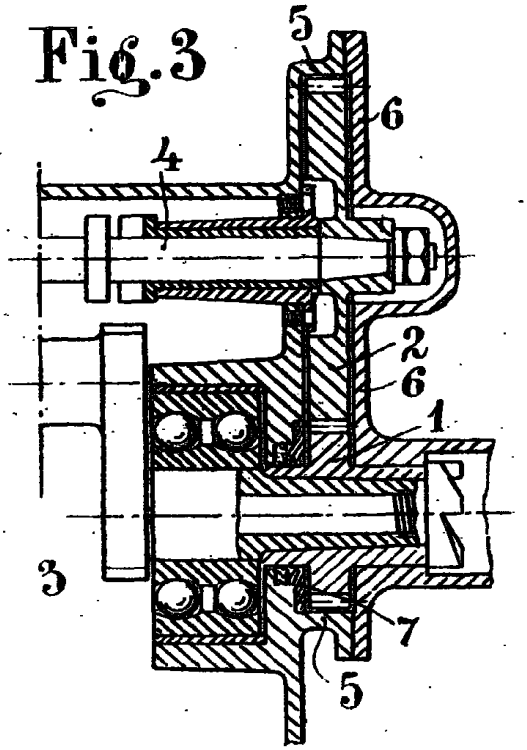


Fig. 3



Malby & Sons, Photo-Litho.