Timing Gear

The camshaft is supported in three bearings directly in the light alloy crankcase without bushings. The camshaft is driven by a helical light alloy gear. The valves are lifted by the cams by way of tappets, push rods, and rocker arms. Each cam operates alternately a valve in each of two opposed cylinders. The exhaust valves are coated with high grade chrome-nickel steel.

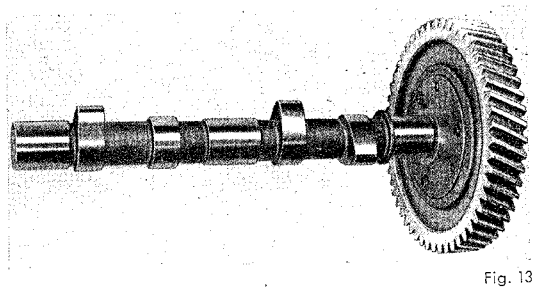

Fig. 13

Cooling System

The engine is cooled by blower circulated air. The blower impeller is mounted on an extension of the generator shaft and is driven from the crankshaft by means of an adjustable V-belt. The blower draws air through an opening in the housing and forces it over the cooling fins of the cylinders and cylinder heads. The cooling air is guided by ducts and guide plates to the cylinders.

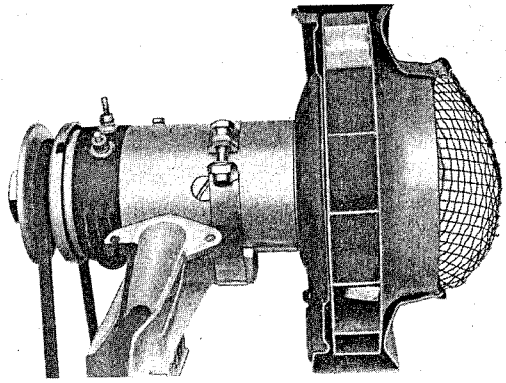

Fig. 14

Oil Circulation System

Lubrication is by a pressure oil system having a full flow oil cooler.

The gear type oil pump is located in the timing case cover and is driven by the camshaft. The oil is drawn from lowest point in the crankcase and is forced through the oil cooler into the oil passages. Part of the oil passes through the crankshaft main bearings into the drilled crankshaft and lubricates the connecting rod bearings. Another portion of the oil lubricates the camshaft, while a third passes through the hollow push rods to the rocker arms, lubricating the rocker arm bearings and valve stems. The cylinder walls, pistons, and piston pins are splash lubricated. The oil flowing from the various lubrication points returns to the crankcase where it passes through a strainer and magnetic filter before re-entering the system from the lowest point in the crankcase. An oil filter is provided in a by-pass oil circut for additional cleaning.

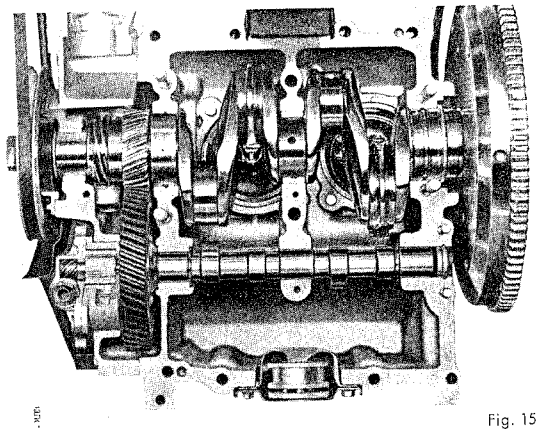

Fig. 15