

# Description of Special Features & Instructions for Adjustments, etc.

**IMPORTANT.**—Clients are requested to communicate with The Daimler Company before attempting to heat or set any part that may have been damaged.

## ENGINE.

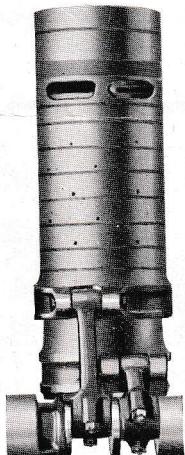
The Daimler Sleeve Valve Engine has now been continuously in production since 1909. In that year The Daimler Company definitely abandoned the Poppet Valve Engine in favour of Sleeve Valves, and have not since built a single engine of the Poppet Valve type (with the exception of Aircraft Engines for war purposes). Sleeve Valve Engines have been made in large numbers ranging from 12 H.P. to 130 H.P.

The construction of the Cylinder and Sleeve mechanism is shewn in Fig. 8, page 12. The cycle of operations is identical with all 4-Stroke Engines, and the illustration shews four positions of the Sleeves and Ports for two revolutions of the Crankshaft.

It will be seen that the two Sleeves are operated by small Connecting Rods from an Eccentric Shaft that is driven from the Crankshaft by a silent chain. The Eccentric Shaft rotates once to every two revolutions of the Crankshaft.

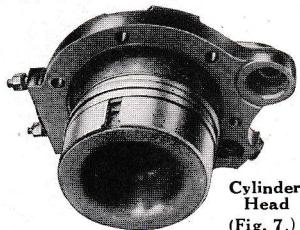
The Sleeves move out of phase with each other, and the motion is such that the ports in the Sleeves coincide with each other, and with the ports in the Cylinders at the appropriate times for the suction or exhaust, as the case may be.

Prior to the ignition of the charge, both Sleeves move upwards into a position where the ports in them are sealed by a gas-tight ring, known as a Junk Ring.



Pair of Sleeves with Rods  
(Fig. 6.)

The Cylinder Head is detachable. It has a piston-like extension which carries the Junk Ring and serves as a guide for the upper end of the Sleeves. A peculiar advantage of the Sleeve Valve Engine is that its running and pulling properties tend to improve with use, and it will usually be found quite unnecessary and also undesirable, to dismantle the Engine more frequently than every 10,000 to 12,000 miles, and not even then unless the Engine is running unsatisfactorily.



This improvement is attributed to the graphite from the lubricating oil filling up the Sleeve clearances, &c., thereby assisting to make both a perfect fit and bearing surface between the various working parts.

On this account it is not advisable to clean out the graphite from the oil grooves in the Sleeves, provided there is no doubt that the parts are re-assembled in the same position as before.

Excessive lubrication or using an unsuitable oil, will cause too great an accumulation of carbon, which may collect round the Junk Rings and cause them to "stick."

Should the Engine run unsatisfactorily, or the fuel and oil consumption be abnormal, and the cause cannot be traced to any fault with the Carburettor or Ignition, attention should be given to see that the **Junk Rings are quite free in their grooves.**

The heads will have to be removed to do this, and at the same time the Sleeve Ports should be examined and any carbon removed that may have collected in the port openings. Also the burnt oil on the Piston and the Cylinder Heads should be scraped off.

THE DAIMLER (PATENTED) SLEEVE VALVE ENGINE.

