

THE FIRST PARIS AERONAUTICAL SALON.

(Concluded from page 35, January 16th.)

THE following are brief summary descriptions of the leading engines at the Paris Salon :—

Gnome.

Rotary engine having seven equidistant radial cylinders mounted about a fixed crank-shaft. The cylinders are

are made of steel, in one piece with their heads, and have aluminium water-jackets. The crank-chamber is a one-piece aluminium casting, slotted at the ends to pass the crank-shaft, which is supported in bearings capped from above. The slot is then closed by a plate. The valves are in the cylinder-heads, and on future models will both be mechanically operated. Fuel is injected into the induction-pipe by a pump, and the circulation of oil is forced. External gear-wheels drive the circulating-pump, cam-shaft, and magneto.

Fiat.

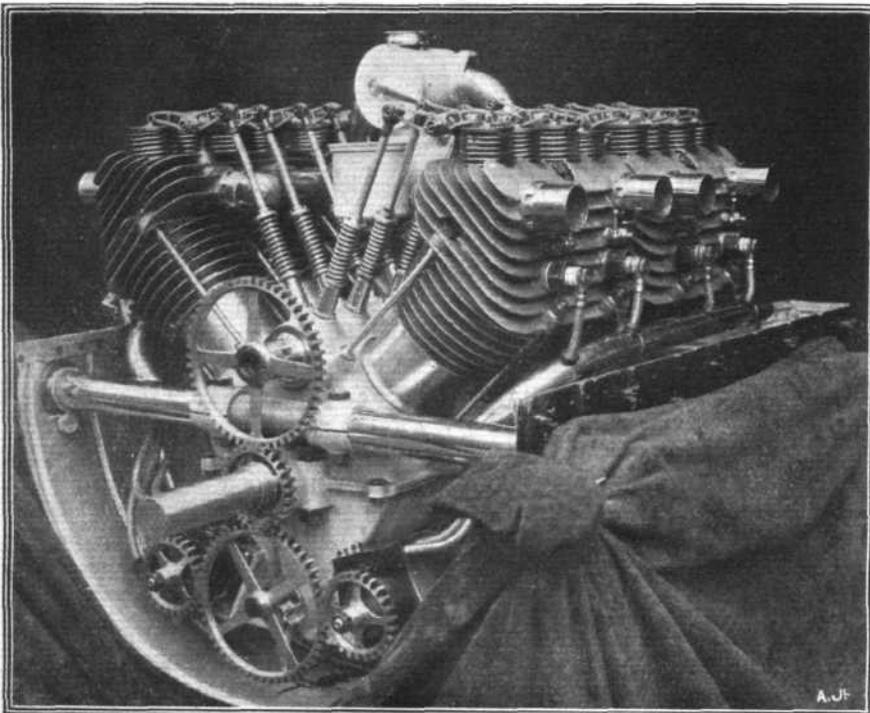
Eight-cylinder V type air-cooled engine. The inlet- and exhaust-valves are placed in an inverted vertical position alongside one another so that they can be operated by rock-levers from separate push-rods. The appearance of the engine is peculiar on account of the shape of the cylinder casting with its finned surface.

Renault.

Eight-cylinder V type engine with induced draught cooling by means of an enclosed fan. The space between the opposite rows of cylinders is enclosed by an aluminium casing, through which the fan on one end of the crank-shaft is able to induce a draught past the radiating ribs on the cylinder walls. Both inlet and exhaust-valves are mechanically operated.

Clement-Bayard.

Fixed horizontal engine having 7 radial cylinders, which are water cooled. The cylinders are made of forged steel in one piece with their heads, and have brass water-jackets shrunk into place. The valves are inclined in the heads, and are both operated by the same push-rod by means of a pivoted beam. The exhaust-valve is inserted



PARIS AERO SALON.—View of the 8-cyl. Fiat aero motor, showing the vertical overhead valves, which are mechanically operated.

made of steel and are solid with their heads and radiating fins ; they are attached to a cylindrical steel crank-chamber from the inside and no bolts show on the exterior.

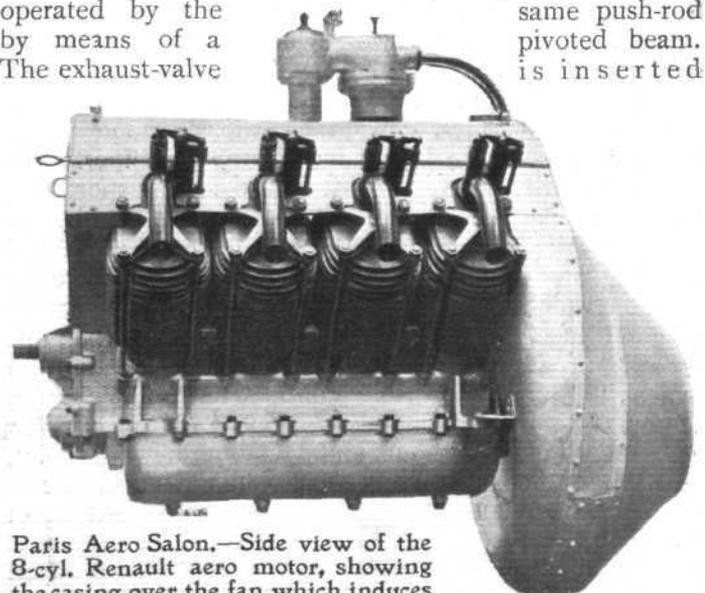
Mixture enters the cylinders from the crank-chamber through atmospheric valves in the pistons, and the exhaust blows straight out into the air through mechanically-operated valves in the cylinder-heads ; incidentally it impinges on the valve-operating mechanism. The exhaust-valves are operated by a set of eight radial push-rods actuated by a multiple-cone disc having its seven cams all in different planes. The carburettor is situated in any convenient place on the machine and is coupled up to the hollow stationary crank-shaft. Magneto ignition is provided ; the magneto being mounted alongside the crank-shaft and gear-driven. The rotation of the cylinders is, of course, relied upon to keep them cool ; they are lubricated through the hollow crank-shaft.

Farcot.

Horizontal 8-cyl. air-cooled engine, the cooling being effected by a large steel fan mounted direct on the upper end of the crank-shaft. The propeller-shaft is driven through bevel gearing, as also are the magneto and distributor. The induction and exhaust valves are combined in one so as to be mechanically operated by the same rod. The cylinders are set in two planes, and there are two cranks at 180 degrees apart.

Wright.

Vertical 4-cyl. engine, made by Bariquand and Marre, but based on Wilbur Wright's own motor. The cylinders



Paris Aero Salon.—Side view of the 8-cyl. Renault aero motor, showing the casing over the fan which induces a draught past the ribbed cylinder walls.

through the inlet-valve orifice ; the inlet-valve itself being in a cage. The cylinders are fixed to an aluminium base by detachable lugs. Inside the base, but in a separate compartment to the crank-chamber, is the water