

worked by a cable and lever from the pilot's seat. An electric tachometer is driven at engine speed from the rear end of the camshaft through a flexible shaft.

Details of Construction.

Cylinders (Fig. 8).—The construction of the built-up cylinders, which are composed entirely of steel forgings and sheet steel pressed to the form of the

the distance between the ribs increasing towards the base of the cylinder. The cylinder barrels extend 35 mm. below the base flanges and are of 3 mm. thickness for a depth of 12 mm.; the extension is reduced to 2.75 mm. in thickness at the lowest part (Fig. 8). The cylinder heads are machined from steel forgings, into which are built the four valve pockets and inlet and exhaust ports.

The valve face seatings are machined in the

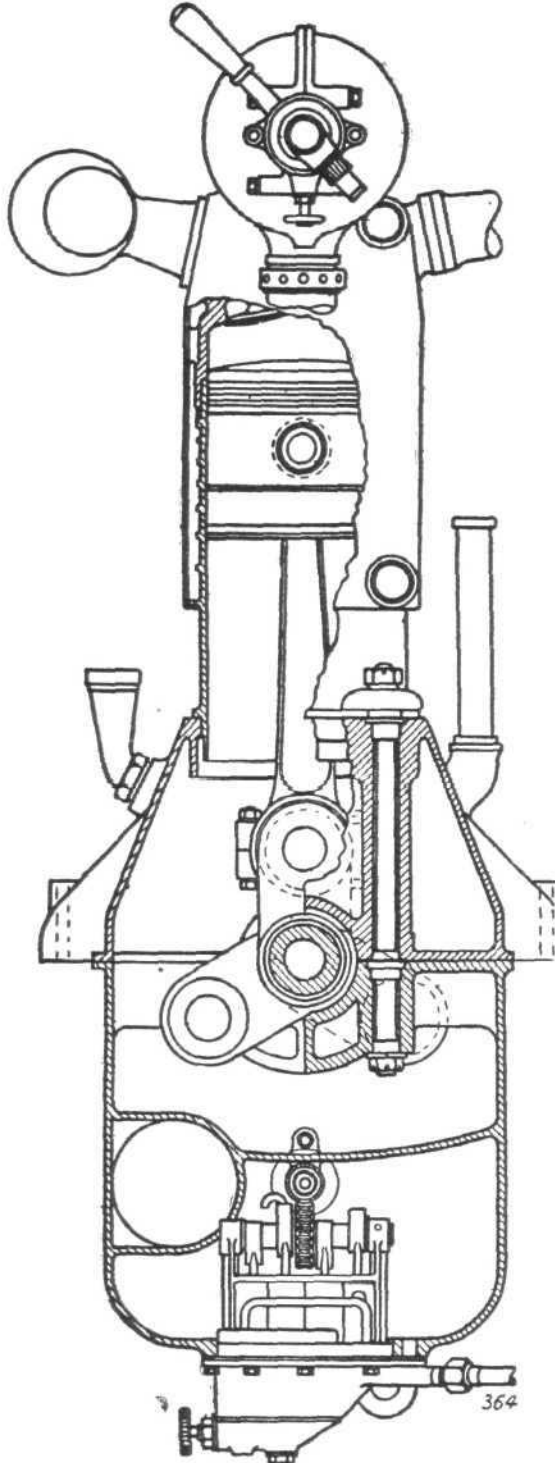


Fig. 5.—Cross-section through cylinder and crankcase.

water jackets, is an interesting example of expert acetylene steel welding. The method of building up the cylinders, and their general construction, is shown in the scale cross-sectional drawing (Fig. 8). The steel cylinder barrels are screwed into the cylinder head, the pitch of the thread being 1.75 mm. The cylinder barrels are machined from steel forgings, the thickness of the cylinder walls being 3.5 mm., this dimension being increased to 6 mm. at the holding-down base flange. Six rectangular ribs are machined on the outer diameter of the cylinder barrel,

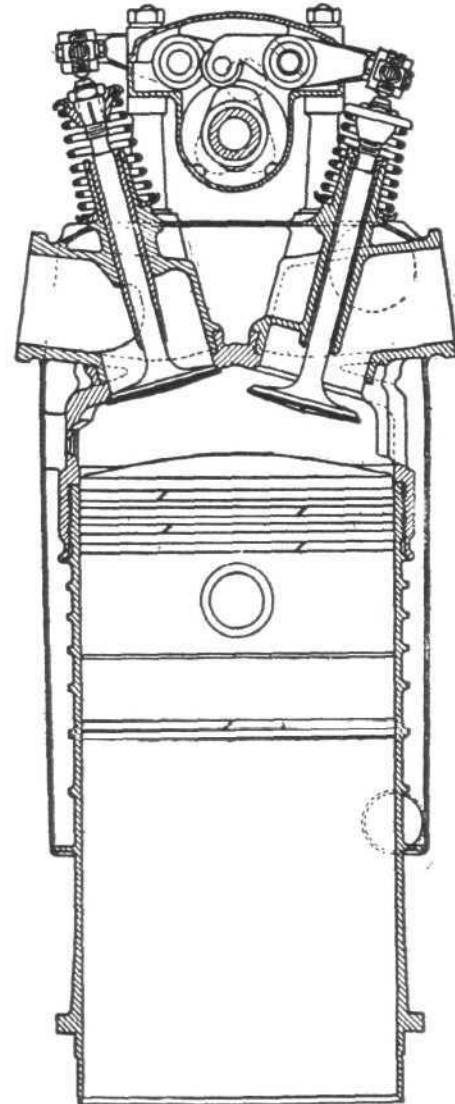


Fig. 7.—Cross-section through cylinder and valve gear.

cylinder heads, the thickness of the crown of the cylinder head being 11 mm. The valve pockets which are machined from steel forgings are acetylene welded into the cylinder heads, and steel valve stem guides are pressed into the valve pockets and welded. The valve stem guides are bushed with phosphor-bronze liners, which are pressed into the guides. It will be noticed that the exhaust valve stem guide is considerably longer than the inlet valve stem guide. The water-jackets are built up in four sections from sheet steel pressings 1.25 mm. in thickness, the lower section of the jacket being of barrel formation, and welded to the flange joint on the cylinder walls. The top sections are in halves, and encircle the valve pockets, the joints being welded vertically on the centre line of the valve ports. The top of the water-jacket is a sheet steel disc which is welded on to the flanged top sections, and the water circulation pipe connections are welded into the top and bottom of the jackets on the exhaust side.

The sparking plug bosses are fitted and welded into