

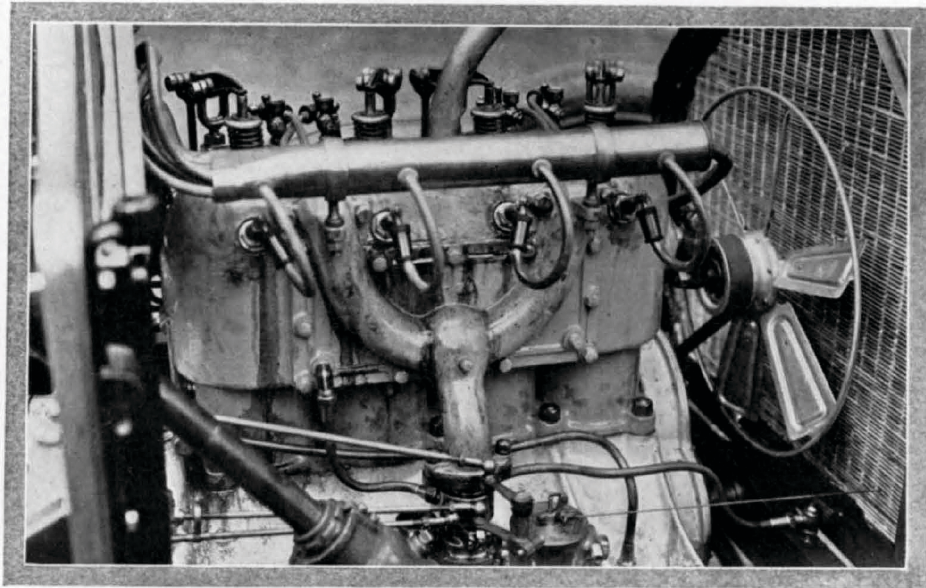
Chalmers Jacketed Intake Manifold.

The Manifold is Integral with the Aluminum Plate That Closes the Jacket of the Bloc Casting. Heating the Passage in This Way Very Materially Assists Vaporization of the Fuel.

IN the latest Chalmers "30" models, by the Chalmers Motor Company, Detroit, Mich., will be found an original form of water-jacketed intake manifold. This manifold is of the Y-type and is cast integrally with the aluminum cover plate used to close the water jacket of the bloc cylinder casting. The upper ends of the branches leading to the two Siamese intake ports in the cylinder casting are provided with two-bolt flanges; and, since the passages extend across the tops of and between the cylinders to the intake valve chambers, they are further jacketed by the cooling water and heated by conduction through the metal of the cylinders. In addition to this extensive jacketing of the intake passages, a hot water jacket is provided about the throttle of the carbureter, so that the great drop in temperature due to the vaporization of the gasoline will not cause sticking of the throttle through freezing of the moisture content in the air in cold weather. The importance of proper heating of the mixture during the stages of its formation and progress into the cylinders cannot be over-estimated, in connection with the action of the ordinary carbureter. The fuel, as it is drawn from the carbureter nozzle, is vaporized more or less rapidly and causes a drop in temperature in the surrounding air column and is itself cooled. This cooling lowers the rate of vaporization, and, except under the most perfect conditions, is something to be avoided if the maximum

power and fuel economy are to be had. The effectiveness with which these vaporizing conditions are met and overcome in the engine design illustrated is noteworthy. This feature of the design, taken together with the

exceptionally free curves and large diameters employed in the piping and cored passages through which the mixture must pass, make the Chalmers engine particularly commendable as to its mixture supply system.



Chalmers "30" intake manifold is a part of the jacket cover.