Some Facts Concerning Petroleum.

THE word petroleum is derived from the Latin word petra (rock) and oleum (oil). It is a natural oily product occurring in the crust of the earth. It has no connection with coal in origin or any other way, being found in different rock formations.

¶ Petroleum belongs to the bitumen family, made up of compounds of carbon and hydrogen and appearing as gases, fluids or solids. Petroleum is a fluid and more or less colored member of the bitumen family. Asphalt is a solid bitumen. Petroleum is the pivotal member of the bitumen group.

¶ It is an important fact to remember that natural gas, also a member of the bitumen family, is always found with petroleum, for it is a product of its formation; also that petroleum exposed to air concentrates to tar, pitch, wax or asphalt. For this reason, surface deposits, or seepages, are regarded as slow exudations of petroleum from nearby subterraneous accumulations.

¶ Petroleum is the most abundant and most valuable of the bitumens. It is always found as an oily liquid; sometimes thin, at other times thick and viscous. Its color varies from water white to yellow, dirty brown, almost black, the darker colors being more common. Its odour is generally offensive, penetrating and persistent. Its chief characteristic is its volatility.

¶ Petroleum is always some compound of carbon and hydrogen with various impurities. The carbon is between 80 and 90%, and the hydrogen from 10 to 15% of the compound. The impurities are sulphur and nitrogen, sulphur and carbon and hydrogen, also oxygen, arsenic and phosphorus, but never in very large quantities.

¶ Oil men speak of petroleum as either paraffin or light, or as asphalt oil or heavy. The weights are figured on Baume's hydrometer scale. Water is 10° Baume and the fixed standard. Hence heavy or asphalt base oil would be 20° Baume, and light or paraffin base oil 60° Baume, more or less. The base of the oils is the nature of the solids obtained in refining.

¶ Petroleum is most widely distributed over the world and is found in all ages of rocks, but the commercial deposits are generally found in the lower unaltered rock formations of special periods. The valuable accumulations are more or less scattered. Surface indications, such as oil bubbles in wells and springs, scum on ponds and streams, have led to the discovery of wells.

¶ As to the cavity theory—it is authoritatively stated that caverns and fissures are not necessarily associated with the deposits of petroleum. Oil comes from porous rock formations and not from appreciable openings in the strata. In other words, oil comes from the multitude of tiny spaces between the grains of the rock itself, instead of from one big chamber or series of connecting chambers. Furthermore, oil wells have been discovered on the uplands, adjoining productive valleys.

¶ The usual method of indicating an oil field has been to study the rock formation and sink an occasional test well.

¶ Petroleum is not volcanic in its origin, and salt water is almost universally found in association with it.

¶ As to the origin of petroleum, chemists and geologists quarrel, with the fight won by geologists. The chemist says petroleum is inorganic, the result of chemical reaction, and makes petroleum in the laboratory. But a chemical