

A Speaking Incandescent Lamp. ANON. (*Sci. Amer.*, cvii, 25, 527.)—It has been lately discovered that under certain conditions the incandescent lamp may be made to speak as readily as the arc lamp. According to the *Physikalische Zeitschrift*, Messrs. K. Ort and J. Ridger have used a metal filament lamp as a telephone receiver, employing an Osram lamp of 100 candle-power. The lamp is placed in a 120-volt direct-current circuit including a self-induction coil. Shunted across the two terminals of the lamp are a capacity and the secondary of a telephone transformer, the primary of which connects with a battery of five storage cells and a powerful microphone. Words spoken before the microphone are reproduced in the lamp. The discoverers of this speaking incandescent lamp explain the action on the principle that the telephonic current variations superposed on the current that passes through the lamp produce corresponding variations of heat in the filament, which, radiating to the glass of the bulb, cause the latter to expand and contract proportionately and thus transmit the vibrations to the external air. The effect cannot be produced with 16 or 32 candle-power lamps, because the glass is too thick and the heat variations too feeble.

Vaporization of Metals. J. W. RICHARDS. (*Trans. Amer. Inst. of Metals*, 1912.)—Metals have vapor tension curves similar to that of water. Like ice, the metals have some vapor tension in the solid state. Zinc, boiling at 920° C., has an appreciable vapor tension at 289° C., or 130° C. below its melting point. Silver can evaporate from solid ingots if heated in a flame; the gases carry off some silver vapor. An effective way of checking such volatilization losses is by heating in closed vessels, and especially by the use of the electric furnace.

Rose Culture and the Manufacture of Oil of Roses in Bulgaria. P. SIEDLER. (*Ber. Deut. Pharm. Ges.*, xxii, 476.)—White and red roses are grown; the former are the easier to cultivate, but give only about half as much oil of an inferior quality. The individual growers distill their own oil. Twelve to fifteen kilos. of roses are distilled with sixty kilos. of water until twelve kilos. of distillate are obtained; about eight or nine such lots are mixed and redistilled into flasks with long necks, in which the oil collects on standing. One kilo. of oil is obtained from 3000 kilos. of roses, and 400 roses weigh one kilo. The roses are gathered in the early morning and distilled the same day; usually a mixture of the two kinds is distilled. The pure oil varies in odor and physical properties according to the district in which it is grown, and is skilfully blended by the distributing houses before its sale. The oil is usually adulterated by the peasants, who mix in ginger-grass oil, palma rosa oil, geranium oil, and several other oils. In 1910 there were 3148 kilos. of oil produced.