

or mica windows at the ends of the tube. Provision must be made for preventing the displacement and short circuiting of the coils of wire when expanded by the heat. The temperature that can be attained in this furnace depends upon the refractory qualities of the tube, and envelope, as well as on the melting point of the platinum itself, and in practice, the temperature attained would be far short of the melting point of the platinum wire.*

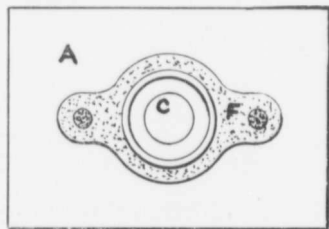
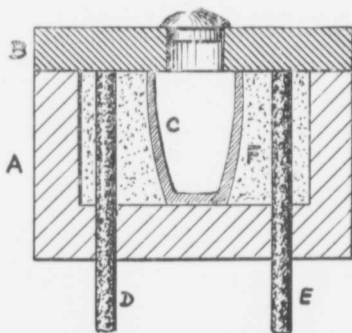


Fig. 13.—Electric Crucible Furnace.

crucible C, and carbon electrodes D and E. A receptacle is formed

This furnace is very convenient for laboratory experiments on a small scale, and at moderate temperatures, but its use is restricted by the high price of platinum.† A somewhat similar furnace in which the use of platinum has been avoided is shown in Fig. 13, which represents in sectional elevation, and in plan with the cover, B, removed—a small electrical crucible furnace, constructed at McGill University, and intended for melting small quantities of metals. It could, however, be made considerably larger, and be used for brass or steel melting. The furnace consists of two fire clay

*A furnace, in which a crucible of fused quartz is surrounded by heating coils of platinum strip, has been patented by W. H. Bristol, Electrochem. Ind., vol. v., p. 55.

†These furnaces can be obtained in several forms from dealers in chemical apparatus. A furnace suitable for heating a small crucible is described by Prof. H. M. Howe in his "Metallurgical Laboratory Notes," p. 37.