

# THE ELECTRIC FURNACE.

## Its Evolution, Theory and Practice.

### CHAPTER I.

#### History of the Electric Furnace.

The electric furnace is of comparatively recent origin. The first of any practical importance, was constructed by Sir W. Siemens in 1878\*, and in 1882† he melted in an electric furnace

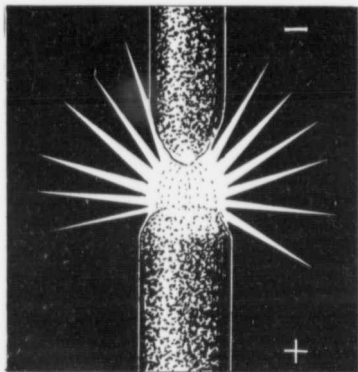


Fig. 1.—The Electric Arc.

some twenty pounds of steel and eight pounds of platinum. Since that time the development has been rapid.

The beginning of the electric furnace may, however, be traced much farther back than this. In 1800—only a few months after Volta's discovery of the electric battery—Sir Humphry Davy, experimenting with the new battery, produced the first arc light between carbon points,‡ and, as the electric arc is the source of heat in an important class of electric furnaces, its discovery was the first step in their evolution.

\*Siemens' Electric Furnace, Journ. Soc. of Telegraph Engineers, June, 1880.

†Siemens and Huntingdon, British Assoc. for the Adv. of Science, 1882, p. 496.

‡Davy, S. P. Thompson's Electricity and Magnetism, Phil. Trans. Roy Soc., vol. xvii. (1809), p. 71, and vol. cxi. (1821), p. 427.