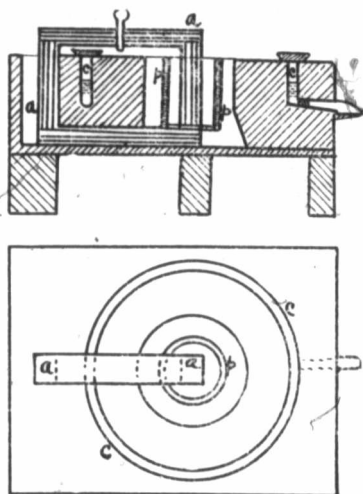


need mentioning, but the principle employed may, perhaps, be developed in a somewhat different form.

The Kjellin furnace (see fig. 6), consists of a circular canal *cc*, containing the metallic charge which forms the secondary winding of a transformer of which *pp* is the primary coil and *aa* the iron core. In this manner an enormous current is produced in the molten metal without the necessity for any terminals to lead in the current. A furnace of this type has been successfully used for the production of steel, but the shape of the furnace would not be conducive to the production of steel of a uniform composition.



KJELLIN FURNACE.

Fig. 6.

The Kjellin furnace has been used for the production of steel from pig and scrap, a certain amount of metal being left in the furnace to carry the current in the early stages of the following charge, but if molten pig iron were employed, this would be unnecessary.

The Gin furnace is intended to be used in the same way, but is still in the experimental stage.

The electric furnace, using carbon electrodes, is especially suited to operations of a reducing character as the electrodes are then protected from loss by oxidation. In the production of steel, how-