No. 800,857. PATENTED OCT. 3, 1905.

F. A. KJELLIN.

ELECTRIC FURNACE.

APPLICATION FILED JULY 6, 1905.

Fig. 1.

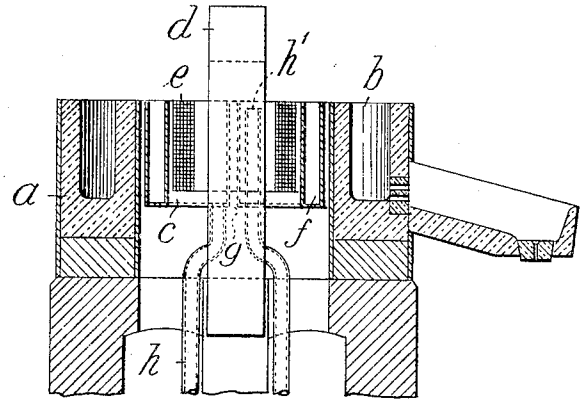
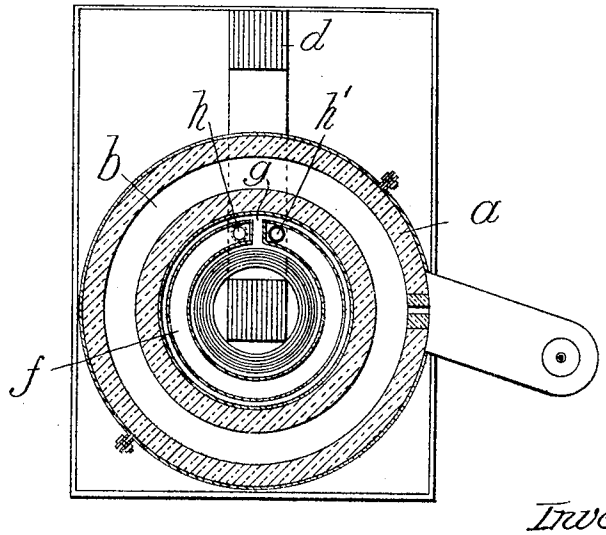


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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ELECTRIC FURNACE.

No. 800,857. Specification of Letters Patent. Patented Oct. 3, 1905.

Application filed July 6, 1905. Serial No. 268,428.

To all whom it may concern:

Be it known that I, FREDRIK ADOLF KJELLIN, engineer, a subject of the King of Sweden and Norway, residing at Saltsjöbaden, Stockholm, Sweden, have invented new and useful Improvements in Electric Furnaces, of which the following is a specification.

The present invention has for its object an improvement in such electric furnaces in which the melting or the heating is effected in an annular chamber surrounding an iron core on which the induction-coil is placed. In such furnaces it is very difficult to insulate the furnace-chamber so completely that the induction-coil does not become heated by said chamber to a temperature which would damage the electric insulation.

The present invention has for its object to avoid this inconvenience and to protect the induction-coil from the heat of the furnace-chamber.

In the annexed drawings the improved furnace is illustrated in a vertical section in Figure 1 and in a horizontal section in Fig. 2.

a is the brickwork of the furnace; *b*, the annular furnace-chamber; *c*, a central opening in the brickwork; *d*, the iron core, and *e* the induction-coil. According to the drawings one or more concentric double-walled casings or jackets *f*, of metal sheet, are placed in the central opening *c* between the furnace-chamber *b* and the induction-coil *e*, said jackets on their whole height being divided on one or more places by some electric insulating material *g*, thus preventing the production of inductive currents in the jacket. The jacket or the jackets are provided with inlets *h* and outlets *h'* for air, water, or some other cooling medium, said inlets and outlets being arranged on each side of the non-conducting interruption *g* in such a manner that a circulation of the cooling medium becomes possible. The said interruptions *g* in the jacket or the jackets *f* may suitably be produced by providing the jackets with a slit along their whole length in such a manner that an insulating air-space is formed between the edges on each side of the slit.

The jacket or the jackets of course may be arranged in such a manner that they form a support for the wall of the furnace.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

In electric furnaces the combination of an annular furnace-chamber, an iron core, surrounded by it, an induction-coil, and double-walled metal-sheet jackets between the said furnace-chamber and the induction-coil, said jackets being adapted to be passed by a cooling medium and on their whole length being provided with at least one interruption of non-conducting material.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDRIK ADOLF KJELLIN.

Witnesses:
JOHN EDBERG,
AUGUSTUS E. INGRAM.