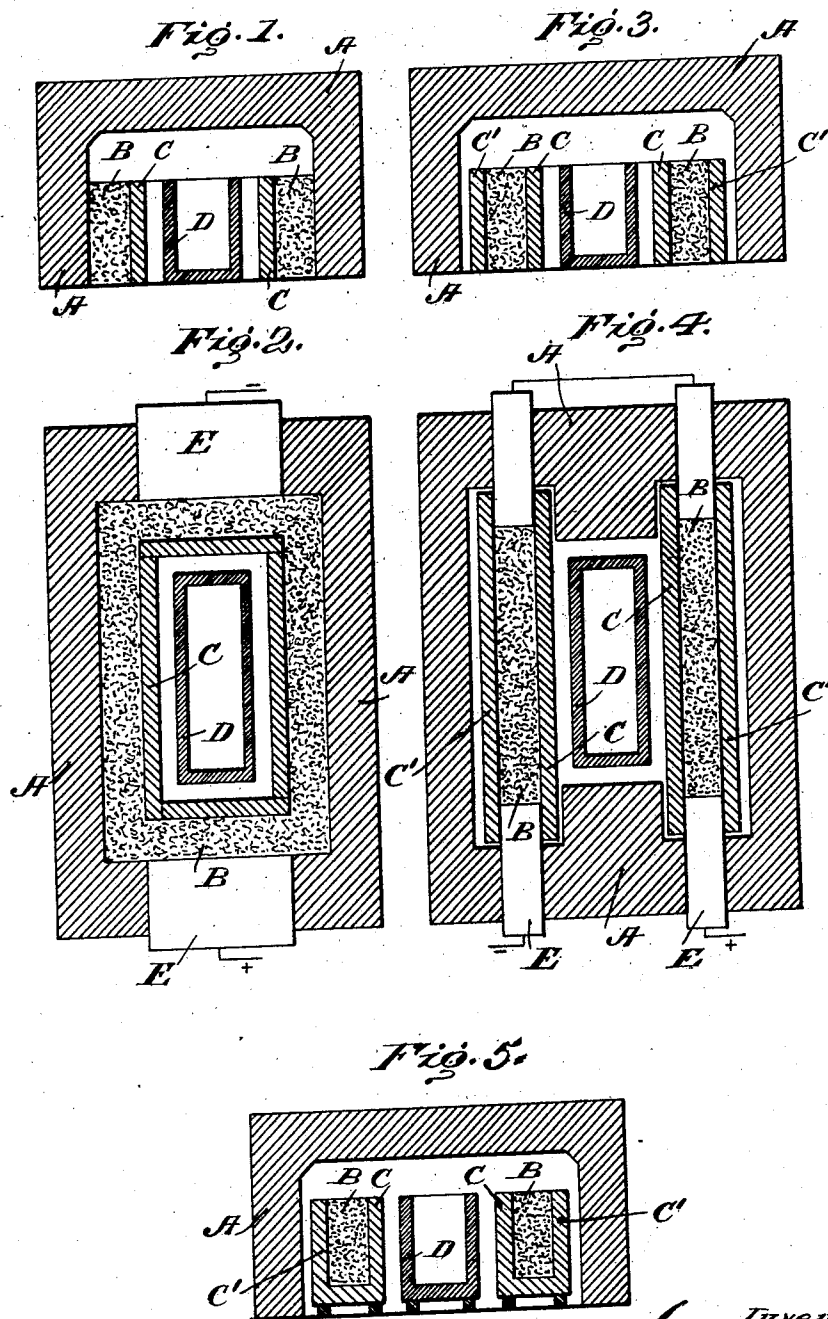


V. POPP & A. MINET.
CONTINUOUSLY OPERATING HIGH TEMPERATURE RESISTANCE FURNACE.
APPLICATION FILED JAN. 16, 1911.

1,003,789.

Patented Sept. 19, 1911.



Witnesses:
E. E. Warfield
R. C. Fitzhugh

Inventors
Victor Popp and
Adolph Minet.
by Mauro, Cameron, Lewis & Mason
Attorneys.

UNITED STATES PATENT OFFICE.

VICTOR POPP AND ADOLPHE MINET, OF PARIS, FRANCE; SAID MINET ASSIGNOR TO SAID POPP.

CONTINUOUSLY-OPERATING HIGH-TEMPERATURE RESISTANCE-FURNACE.

1,003,789.

Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed January 16, 1911. Serial No. 603,001.

To all whom it may concern:

Be it known that we, VICTOR POPP and ADOLPHE MINET, both of Paris, France, have invented a new and useful Improvement in

Continuously-Operating High-Temperature Resistance-Furnaces, which improvement is fully set forth in the following specification.

The present invention relates to improvements in resistance furnaces. These improvements will be readily understood from the following description and by reference to the accompanying drawing, in which:

Figure 1 is a vertical section, and, Fig. 2 a horizontal section of one constructional form of the improved furnace. Fig. 3 is a vertical section, and Fig. 4 a horizontal section of a second embodiment of the invention. Fig. 5 is a vertical section of a furnace with three tanks.

The outer wall of the furnace A is of refractory material such as magnesia, alumina, bauxites or refractory earths of any kind. Inside this wall is arranged the resister B, B constituted by a granular mass kept apart from the tank D by a protecting or distance plate C (Figs. 1 and 2). The plates C, which may be either continuous or perforated, may also be conductors or insulators. When they are conductors, their electrical resistance may either be less than, equal to or greater than the resistance of the resister B, B; they then serve as a secondary resister. When the plates C are conductors, they are preferably formed of carborundum. When they are insulators they may advantageously be formed of bauxite, alumina, or magnesia, that is to say of refractory oxids. The tank D may be a conductor or not and in contact with the protecting place C or separated therefrom.

In the furnace represented in Figs. 1 and 2, the resister touches the walls and surrounds the plates C throughout their entire surface.

In the modification illustrated in Figs. 3 and 4, the resister B only heats the tank D laterally and the two branches of the resister can be connected either in parallel or in series. In addition, the resister is kept separated from the wall A of the furnace by a second protecting plate C'. The current is conducted into these two apparatus by electrodes E.

In the modified construction with three tanks illustrated in Fig. 5, the central tank D does not contact either with the resister or with the bottom of the furnace. Similarly, the register B does not touch the walls A and the protecting plates C C' from flues which touch neither the bottom of the furnace, the tank, nor the walls of the furnace, in such a manner that the interior of the furnace can be repaired without touching either the bottom or the walls, which will serve for an indefinite period.

What we claim and desire to secure by Letters Patent of the United States is:—

1. In a high temperature resistance furnace, the combination with the outer wall of the furnace forming a furnace chamber; a tank in said chamber; a resister of granular material in said chamber; a protecting wall or plate interposed between said tank and resister; and a protecting wall interposed between said resister and the wall of the furnace chamber.

2. In a high temperature resistance furnace, the combination with the outer wall of the furnace forming a furnace chamber; a tank in said chamber; a resister of granular material in said chamber; and a protecting wall or plate interposed between said tank and resister, said protecting wall being of electrically conducting material containing carbon.

3. In a high temperature resistance furnace, the combination with the outer wall of the furnace forming a furnace chamber, a tank in said chamber; a resister of granular material in said chamber; a protecting wall or plate interposed between said tank and resister; and a protecting wall interposed between said resister and the wall of the furnace chamber, said protecting walls being of carborundum.

In witness whereof we have hereunto signed our names this 28th day of December 1910, in the presence of two subscribing witnesses.

VICTOR POPP.
ADOLPHE MINET.

Witnesses:

H. C. COXE,
GABRIEL BELLARD.