

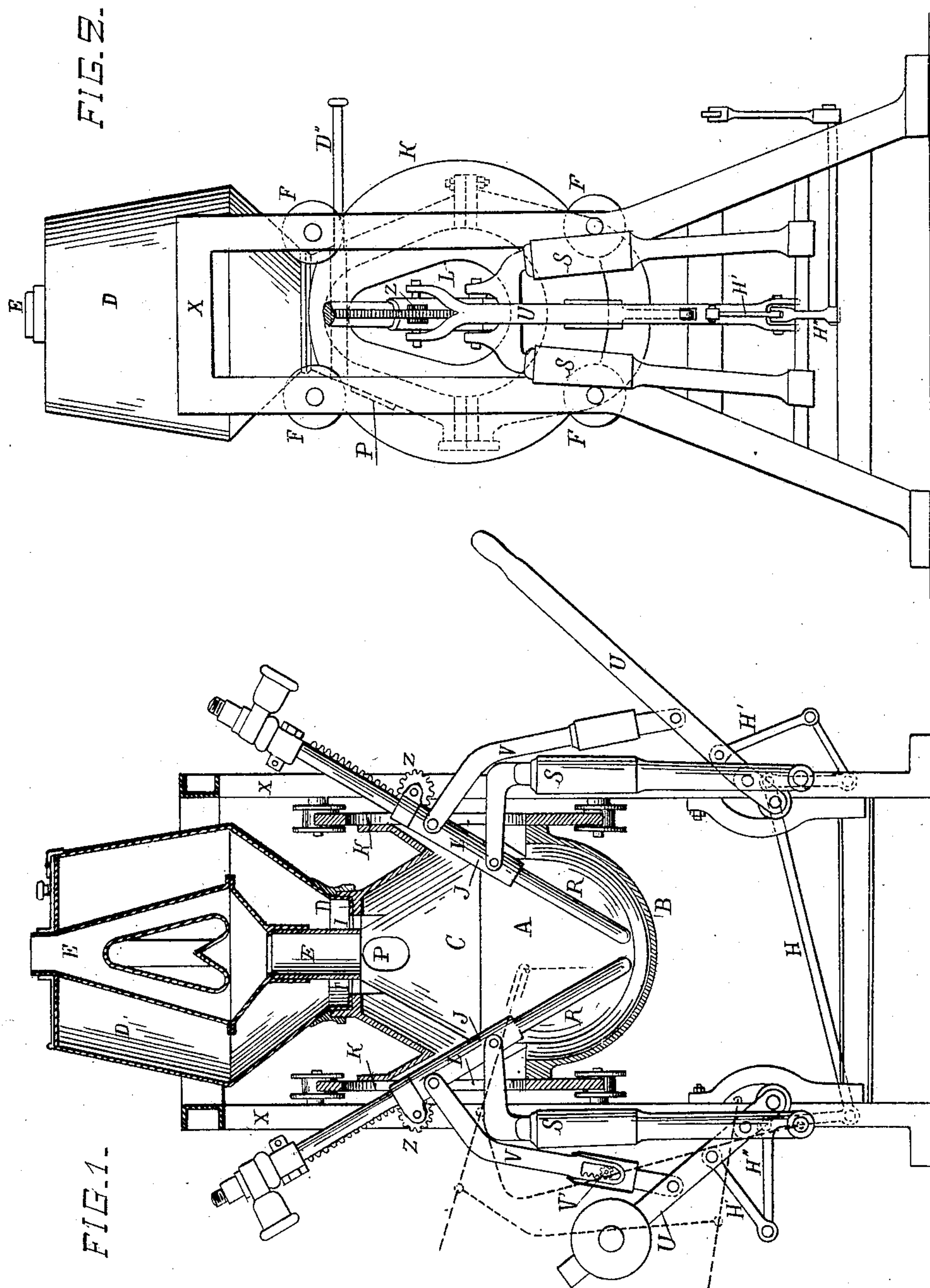
No. 612,943.

Patented Oct. 25, 1898.

L. BRESSON.
ELECTRIC FURNACE.

(Application filed Feb. 8, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

LOUIS BRESSON, OF LYONS, FRANCE.

ELECTRIC FURNACE.

SPECIFICATION forming part of Letters Patent No. 612,943, dated October 25, 1898.

Application filed February 8, 1898. Serial No. 669,532. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BRESSON, a citizen of the Republic of France, residing at Lyons, France, have invented certain new and useful Improvements in Electric Furnaces, (for which I have obtained a patent in France, dated November 10, 1897, No. 268,610,) of which the following is a full, clear, and exact specification.

The object of my invention is to provide an oscillating electric furnace to be used for the production of carbids, and more especially for calcium carbid.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section through the axis of the furnace. Fig. 2 represents an exterior view of the same.

The furnace is composed of a crucible A, of an ovoid form, built of pure compressed magnesia. This crucible is fixed in a shell B of like form, made of steel plate or cast-iron. The crucible is closed by a cover of fire-clay having the form of a truncated cone C, also covered with an envelop of wrought or cast iron. The said cover is bolted on the shell B of the crucible. On the top of the cover stands a hopper D, turning on its base D' around its axis. Through the center of this hopper passes a chimney E, of cast-iron, the use of which is to carry off the hot gases. The hopper D, hermetically closed, receives the ground material in order to absorb as much as possible the heat escaping from the furnace through the chimney E. The base D' of the hopper D has openings I I, which coincide with similar ones made in the top of the furnace when the hopper is moved in a circular way by using the handle D''. It is by these means that the material is introduced into the furnace, preventing the oxidizing action of the air.

On each side of the crucible is fixed a circular disk K, which can turn between four grooved rollers F, fixed on the frame X of the furnace. The said disks constitute two trunnions of a large diameter, allowing the tilting of the furnace in order to empty it by a lateral opening P.

The electrodes R R, of carbon, penetrate inside the furnace by elongated openings L, made in the disks K, each one of them being

supported by a socket J, through which it can glide by means of a rack operated by a pinion Z. Each socket J is supported by two rods V and S, attached at two different points to a lever U, so that when the said lever is operated the corresponding extremity of the carbon moves itself vertically, as shown in dotted lines in Fig. 1.

The levers U on the right and left are made to move in unison by the rods H H' and the bent levers H'', so that the working of one or the other produces, in effect, the raising of the two ends of the two carbons at the same time, leaving between them always the same distance and maintaining, therefore, the stability of the arc.

The rods V are extensible, and their length can be changed by a pinion V', acting on a rack so that the two carbons can be brought into contact in order to strike the arc and to regulate its length.

After the above explanations it is very easy to understand the working of the furnace.

The ground materials in the hopper D are introduced by the working of the handle D'' proportionately to the ascending of the material in the crucible, and the carbons are lifted by working the levers U so as to keep the arc over the mass in fusion until the finishing of the operation, when the carbons are in the horizontal position. At this moment the furnace can be turned over and emptied without even interrupting the current, and another operation can begin again in the furnace while it is still warm. One can apply to one of the pinions V', which regulate the bringing nearer of the carbons, an electric governor consisting of a small electric motor crossed by a shunt-current and working, as above described, for the regulation of the arc-lamps.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an electric furnace to be used for the production of carbids, an oscillating crucible with means for operating the same, a cover therefor, a hopper surmounting the cover, a chimney affording passage to the products of combustion, electrodes projecting through axial openings in the sides of said crucible, and connections thereto, substantially as described.

2. In an electric furnace an oscillating crucible with means for operating it, carbon electrodes isolated from the body of the furnace and projecting into the crucible, and means
5 for supporting said electrodes, and for raising their extremities without changing the length of the arc, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

LOUIS BRESSON.

Witnesses:

YVIN RABILLOUS,
GASTON JEANNIAUX.