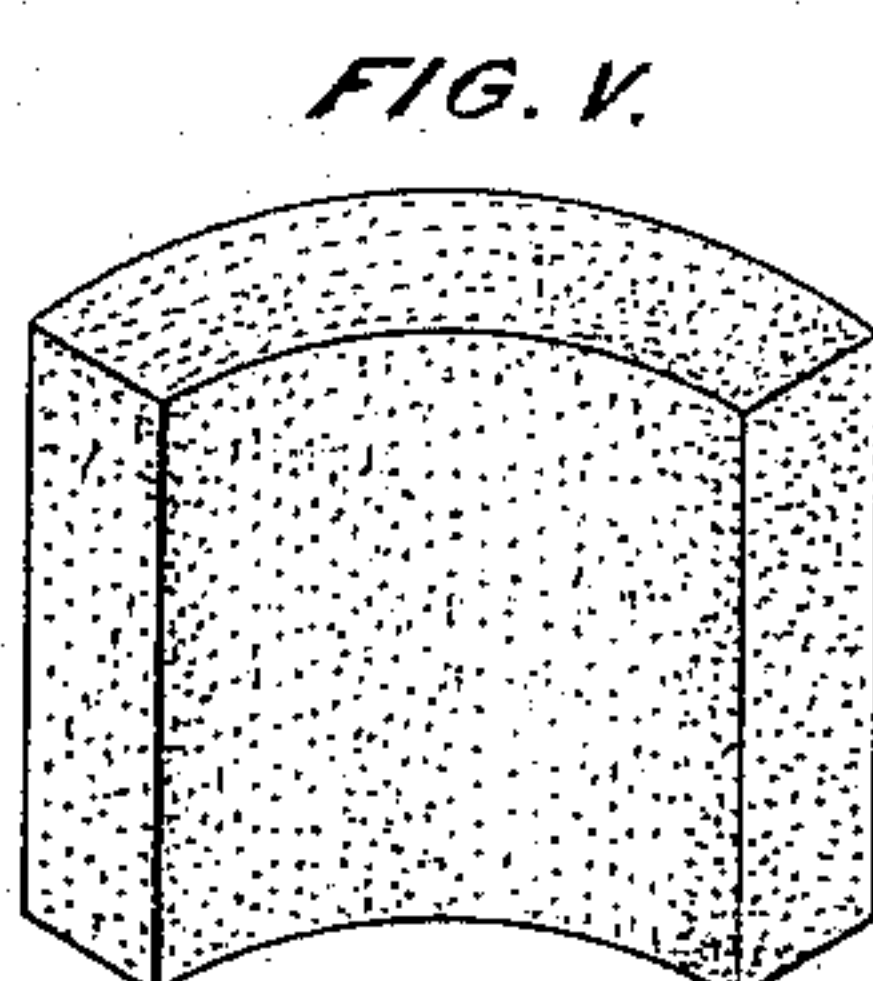
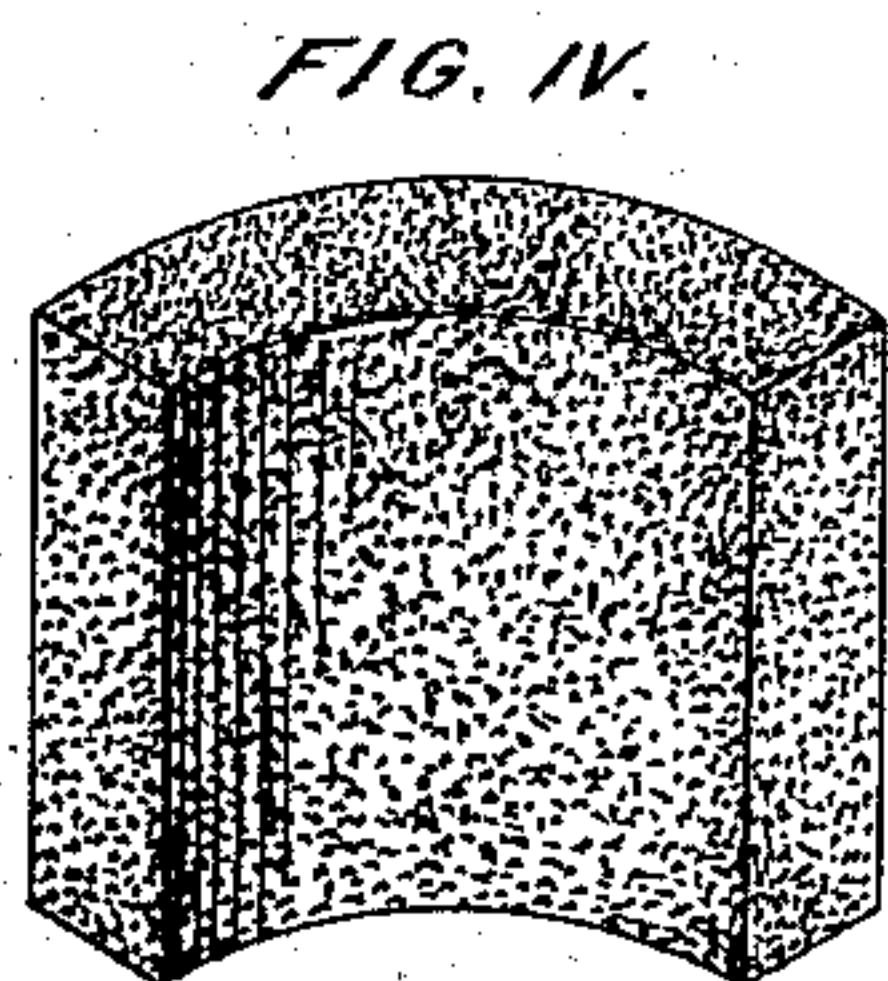
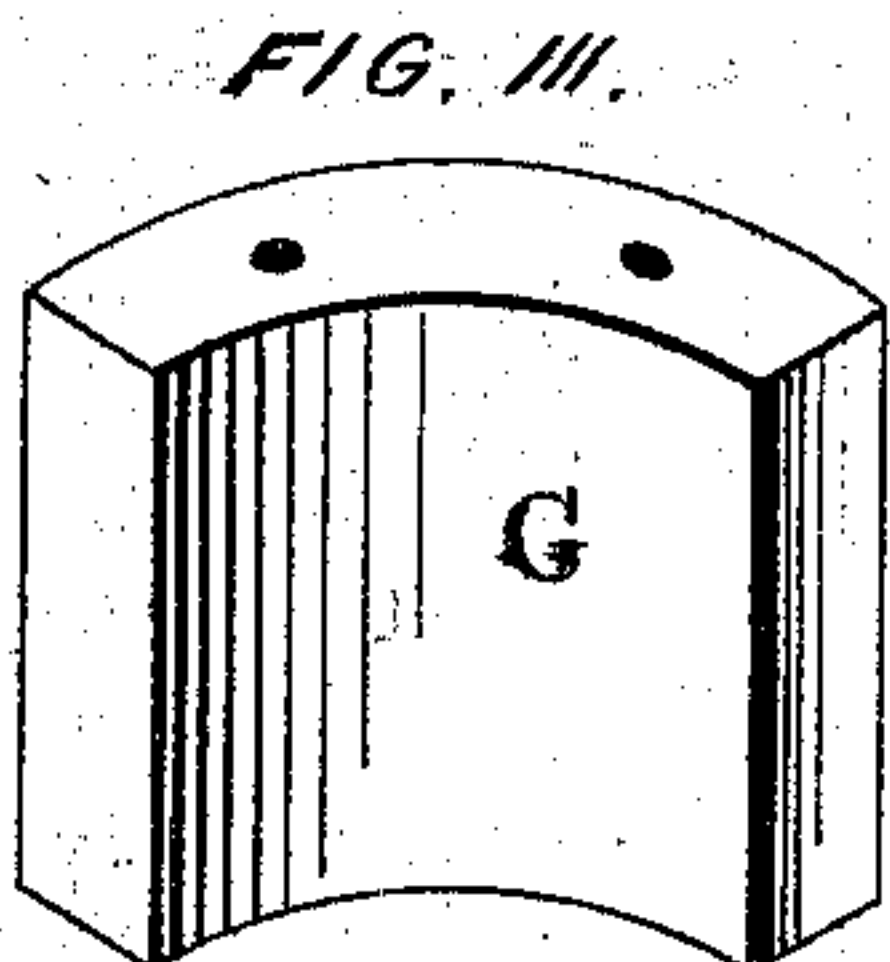
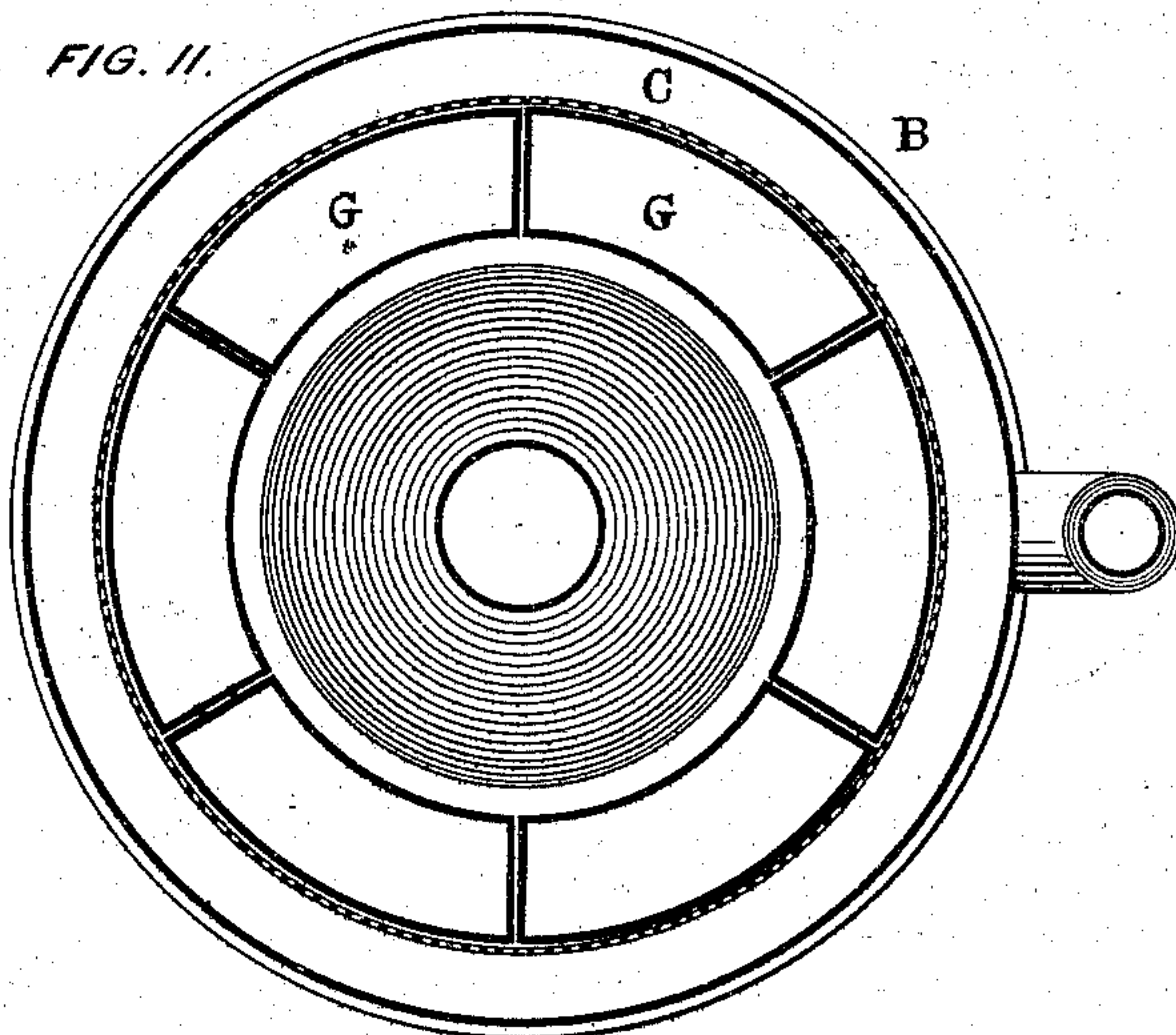
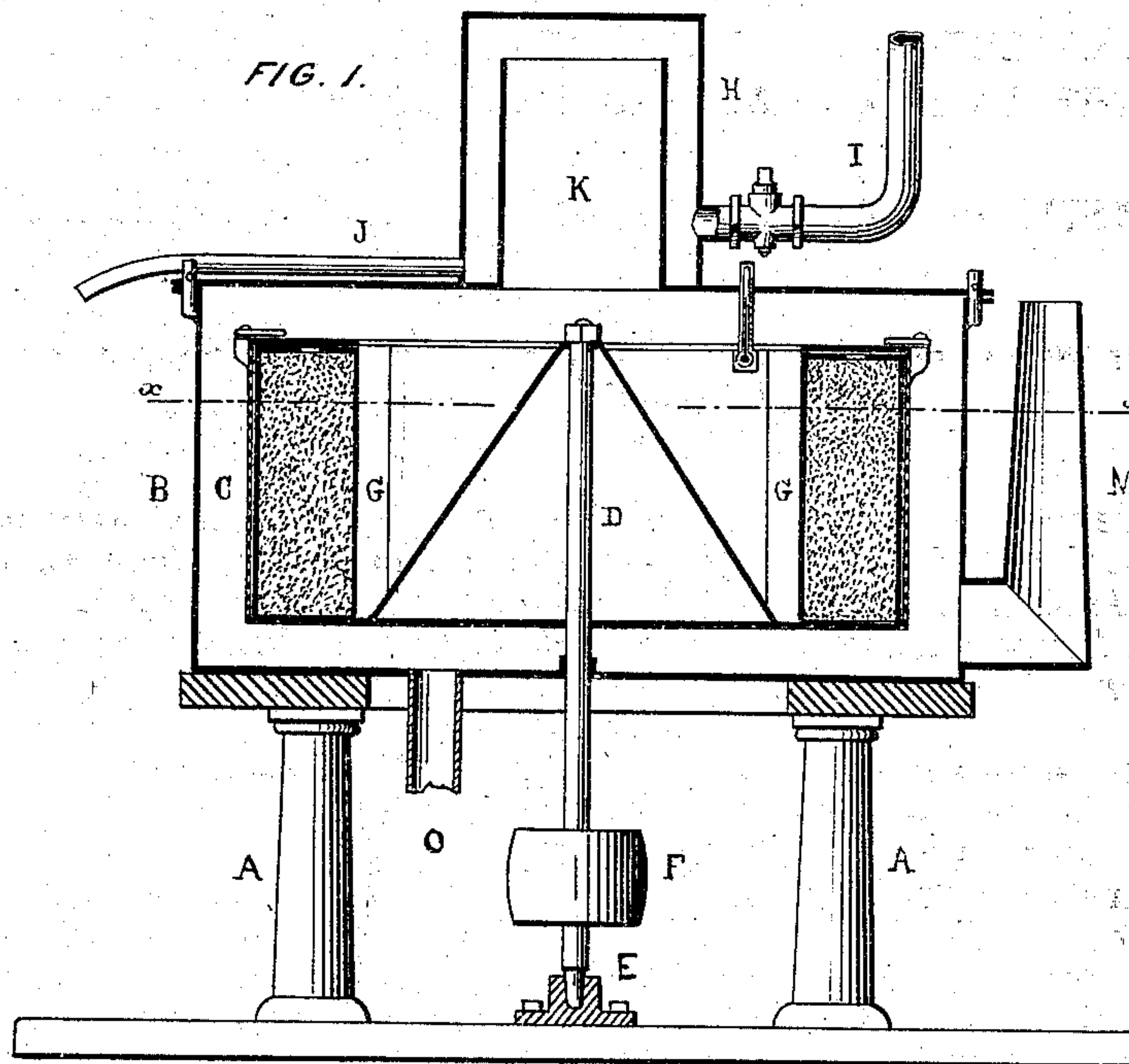


J. NOSSIAN.
Processes for Clarifying Sugar.
 No. 152,763.

Patented July 7, 1874.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHANN NOSSIAN, OF SZTRAZSA, HUNGARY, AUSTRIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO ABRAHAM KAUFMANN, OF NEW YORK CITY.

IMPROVEMENT IN PROCESSES FOR CLARIFYING SUGAR.

Specification forming part of Letters Patent No. **152,763**, dated July 7, 1874; application filed June 3, 1874.

To all whom it may concern:

Be it known that I, JOHANN NOSSIAN, of Sztrazsa, in Hungary, Austria, have invented certain new and useful Improvements in Process for Clarifying Sugar, of which the following is a specification:

My invention relates to certain new and useful improvements in the process of purifying the ordinary brown sugar and freeing the same from molasses, uncrystallizable sugars, and deliquescent matters; and it consists in draining the same in molds of a segmental shape, arranged to fit around the inside of a centrifugal sugar-machine, in such a manner that after the sugar which is packed therein has been sufficiently drained and dried it may be ejected from the molds, and the molded blocks placed around the centrifugal and subjected to the action of steam and the centrifugal motion of the machine, as will be hereinafter fully set forth.

In the drawings, Figure 1 represents a vertical cross-section of my apparatus. Fig. 2 is a horizontal section of the same. Fig. 3 is a view of one of the sugar-molds detached; and Fig. 4 is a view of one of the molded blocks of brown sugar after being removed from the mold, and Fig. 5 a view of the block of clarified sugar.

In the drawing, A A represent the columns which support the cylindrical casing B of the centrifugal. C is the revolving or rotating cylinder, of wire netting, as usual, mounted on a shaft, D, extending through the bottom of the apparatus, and having a bearing in a suitable socket, E, attached to the frame-work of the machine. The lower part of said shaft is provided with a pulley, F, by means of which it may be set in motion, in the usual manner.

In order to provide for the proper admission and escape of steam, I provide my apparatus with a steam-dome, H, over the center of the top of the same, and communicating with the interior of the centrifugal. The steam is supplied to this dome by means of a steam-pipe, I, and in the interior of the dome I provide a steam-trap, consisting of a short pipe, K, which prevents any condensed steam from

finding its way into the centrifugal. The water of condensation collecting in said trap is carried off through a pipe, J. M is an escape-pipe for the steam, and O a pipe through which any uncrystallizable syrup, sugar, &c., may be drawn off that may collect in the lower part of the casing of the centrifugal machine. Within said wire cylinder C, and around the inside of the periphery of the same, I arrange a series of segmental molds, G, perforated at the top and open at the bottom, as shown, for the purpose to be hereinafter described. These molds are in such number and so shaped as to exactly fit the wire cylinder, forming therein an annular series when in place, but separated at proper distances, so that they can be removed separately when desired.

The sugar to be refined and purified I place in a raw state in these molds, and leave the same for a space of time, varying with the temperature of the climate and character of the sugar with which the molds are packed. This will usually be two or three days; after which the sugar in the molds will be found in the shape of solidified blocks, which may be readily removed from the molds through the open end, the apertures in the upper part allowing the admission of air for the purpose.

After being removed from the molds, the segmental blocks of sugar are arranged around the inside of the wire cylinder C in the same manner as the molds in which they were formed, and are then subjected to an action of steam and centrifugal motion, which will effectually deprive them of all coloring and deliquescent matters, as well as molasses and other uncrystallizable sugar, in a short time.

In all machines of this class hitherto in use the sugar has been packed directly into the wire cylinder, and then subjected to centrifugal motion and steam without previous draining, which entails a long and tedious action of the same before the sugar is clarified and dried; or the sugar has been packed in molds set around the inside of the wire cylinder, and subjected to the centrifugal action of the apparatus without removal. In this last case it

is obvious that the molds greatly obstruct the action of the apparatus, for no matter how openly they may be constructed, they will, in some measure, confine the sugar and prevent rapid purification.

Again, when the sugar is placed in a mass in the wire cylinder, as in the first-mentioned class of machines, it must necessarily be dug or cut out before it can be removed—a process requiring considerable time, and utterly preventing anything like the production of the uniform and symmetrical blocks as in the case of my invention. It will be readily perceived that my invention possesses many advantages over the machines above enumerated. The blocks, having been first formed and drained in the molds, can be very rapidly purified when removed from the same, as the steam will be unobstructed in its operation upon them. Each block being complete in itself and separated from the rest, the charge

can be expeditiously removed from the apparatus after the process of purification is finished, and the blocks will be symmetrically and uniformly formed, which it is evident will greatly facilitate packing for the purposes of transportation, storage, &c.

What I claim as my invention is—

The improved process, as herein described, of purifying sugar by first packing the same in molds and draining and drying until it is formed into blocks, and then subjecting the blocks removed from the molds to the action of steam in a centrifugal machine, substantially as herein described.

In testimony that I claim the foregoing, I have hereunto set my hand.

JOHANN NOSSIAN.

Witnesses :

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