

(No Model.)

V. KUSNEZOV.

GAS WASHER.

No. 415,646.

Patented Nov. 19, 1889.

Fig. 1.

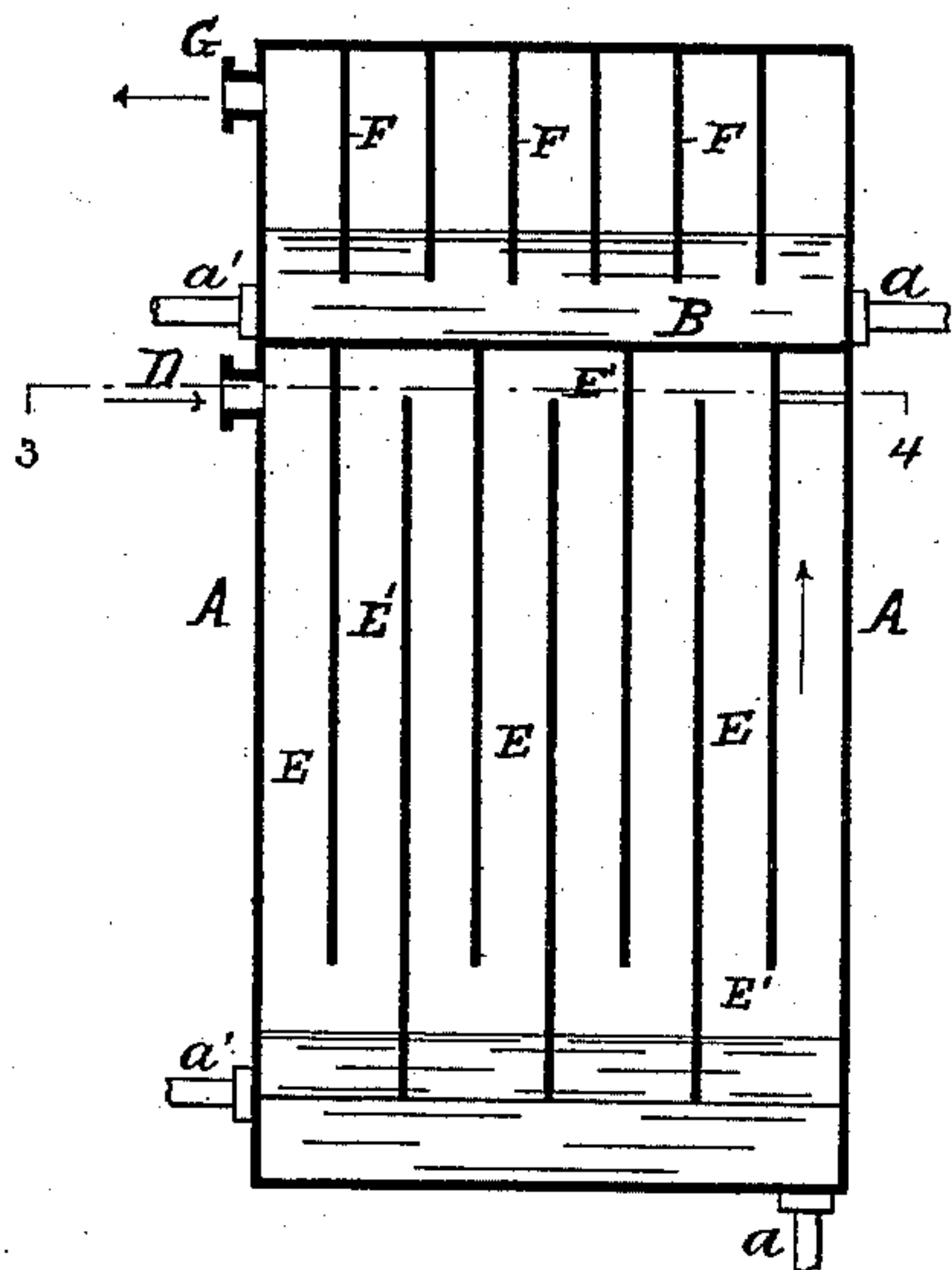


Fig. 2.

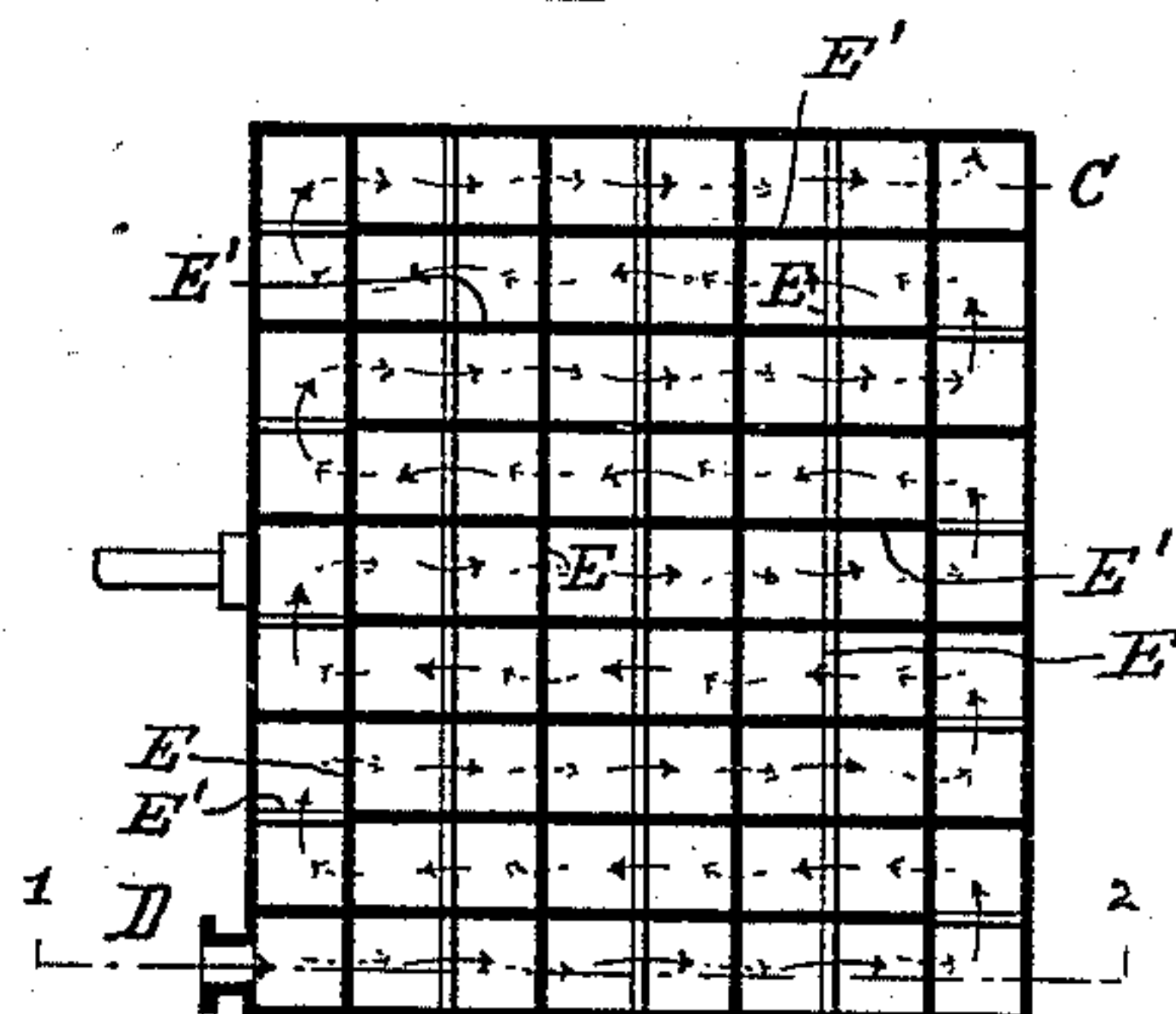
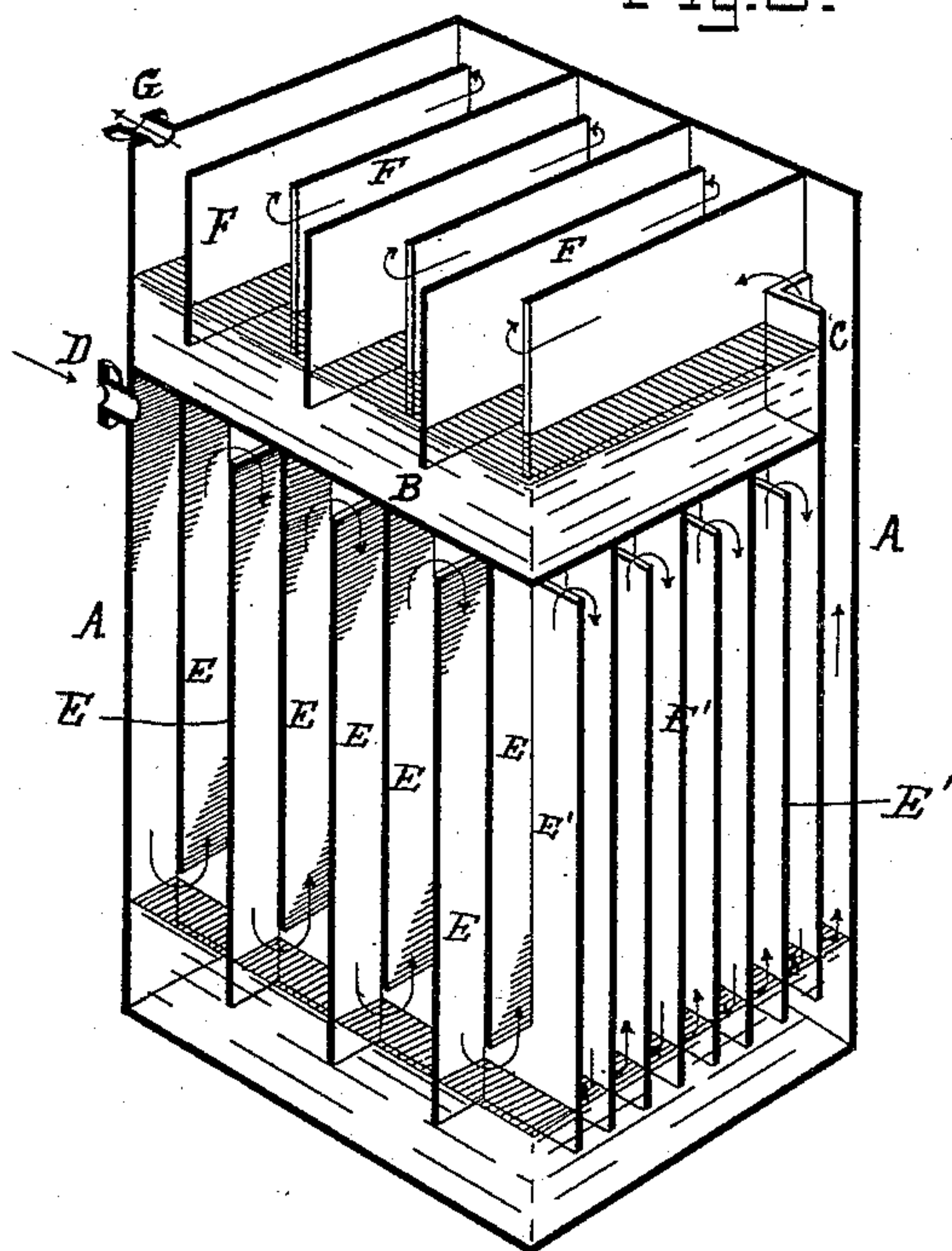


Fig. 2.



WITNESSES:

E. J. Griswold
George Baumann

INVENTOR

Vassily Kusnezov

BY

Howson and Howson
his ATTORNEYS

UNITED STATES PATENT OFFICE.

VASSILY KUSNEZOV, OF ST. PETERSBURG, RUSSIA.

GAS-WASHER.

SPECIFICATION forming part of Letters Patent No. 415,646, dated November 19, 1889.

Application filed June 1, 1888. Serial No. 275,713. (No model.) Patented in Russia February 9, 1887, No. 1,053.

To all whom it may concern:

Be it known that I, VASSILY KUSNEZOV, a subject of the Emperor of Russia, residing in St. Petersburg, Russia, have invented certain new and useful Improvements in Gas-Washers, (for which I have obtained a Russian patent, dated February 9, 1887,) of which the following is a specification.

My invention consists of a gas cooler or condenser of a peculiar construction for purifying gas obtained from naphtha, (crude petroleum.)

Figure 1 represents a vertical section of my gas-cooler or gas-purifier on the line 1 2, Fig. 3. Fig. 2 is a perspective view with the top and two adjoining sides cut off, and Fig. 3 is a sectional plan view on the line 3 4, Fig. 1.

The cooler consists of a metallic casing A, preferably of rectangular form. This casing is divided by a horizontal partition or plate B into two compartments or chambers in communication with each other only by a vertical pipe or duct C. The lower chamber, into which the gas to be purified enters by the opening D, is divided by vertical partitions E and E', which cross each other at right angles and form a great number (from sixty-four to five hundred) of vertical chambers or ducts, communicating with each other alternately at the bottom of the casing above the level of the water contained therein and at the top immediately under the partition B. By this arrangement the gas must pass in a circuitous course consecutively through all the vertical channels and ducts of the lower chamber, as shown by the arrows in Figs. 2 and 3, until it reaches the last vertical duct C, which leads to the upper compartment. The partitions E', beginning at some distance from the plate B, do not reach the bottom of the casing, (see Figs. 1 and 2,) so that the water is at the same level in all the channels or ducts.

In passing under the lower edges of the partitions which do not reach down into the water the gas is brought into contact with the water, which retains the particles of naphtha contained in the gas, (and which escaped the hydraulic main,) and is thereby cooled and purified. After passing through all the channels or ducts of the lower chamber the gas ascends through the tube or duct C into the upper chamber, where it passes over a layer of water, with which this chamber is filled to about one-third of its height. In this upper chamber there are arranged a number of metallic partitions F parallel to each other and alternately open at opposite ends, so as to form a serpentine channel for the extended flow of the gas over the water, by which it is finally purified and is let off from the apparatus by the opening G. An inlet *a* and outlet *a'* for the water are provided for each chamber.

I claim as my invention—

A gas cooler or purifier consisting of an upper and lower chamber communicating at one point, and each containing water in its lower part and having an inlet and outlet for the gas, the lower chamber being divided into a number of compartments by vertical partitions at right angles to each other and having communicating passages between adjoining compartments alternately at the top and bottom, while the upper chamber is divided into parallel compartments communicating alternately at opposite ends, all substantially as described.

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

VASSILY KUSNEZOV.

Witnesses:

FREDERIC SANDERS,
PETER JOHNSON.