

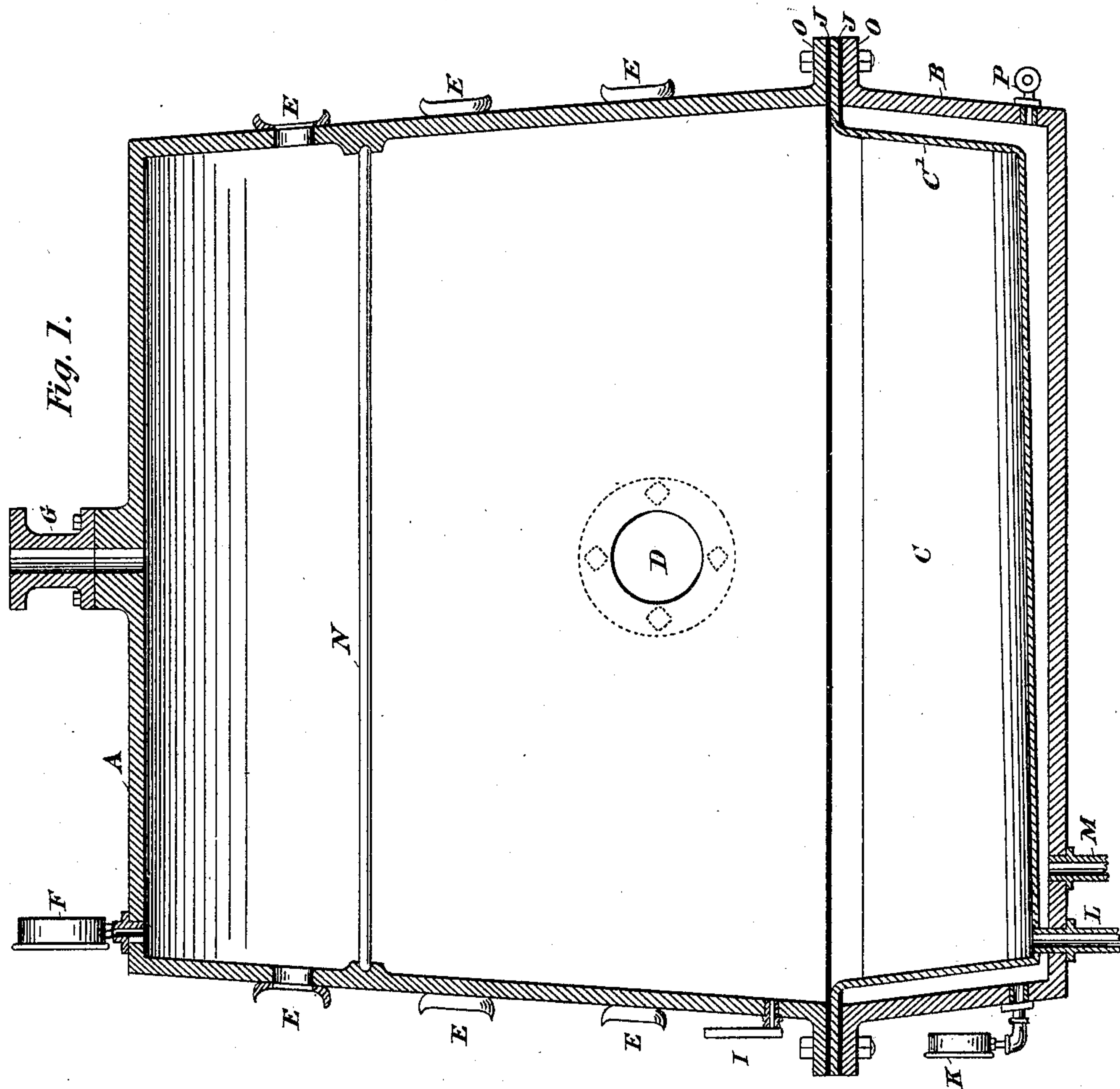
No. 789,793.

PATENTED MAY 16, 1905.

H. W. BUSCHEMEYER.
VACUUM PAN.

APPLICATION FILED JULY 28, 1904.

3 SHEETS—SHEET 1.



Witnesses
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Geo. J. Johnson

Henry W. Buschmeyer Inventor

By Attorneys Lewis A. Demitz

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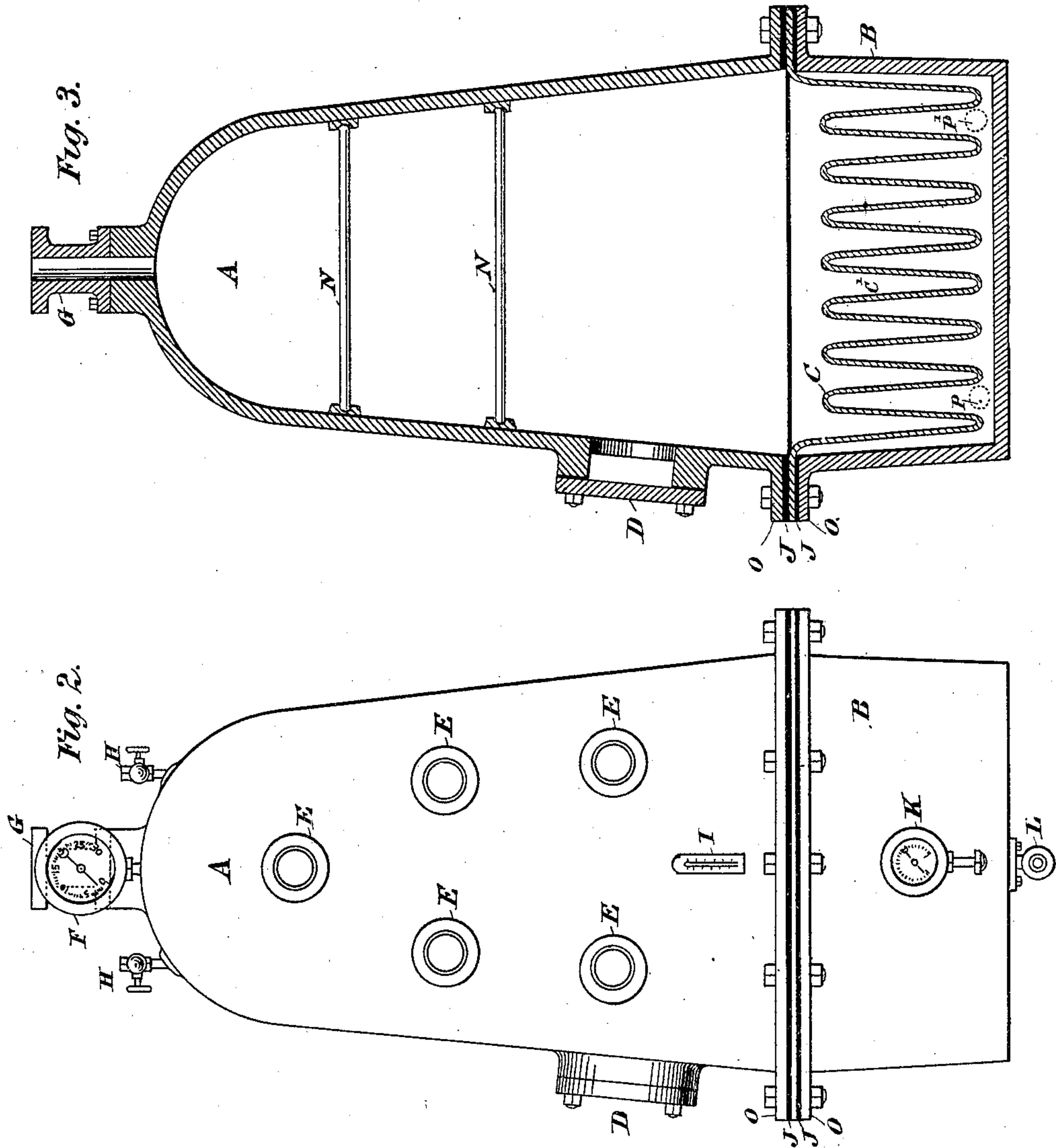
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3 SHEETS—SHEET 2.



Witnesses
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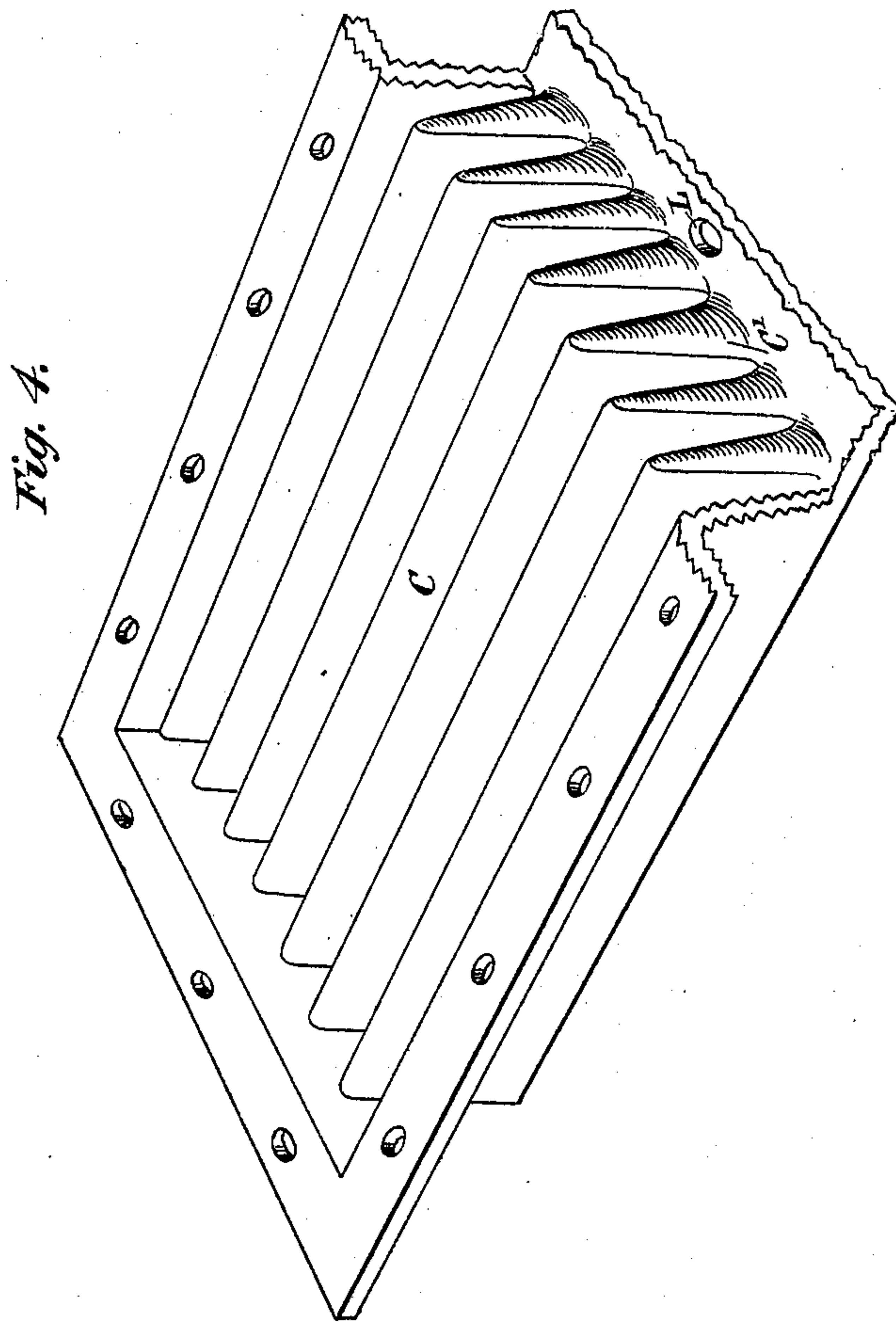
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

HENRY W. BUSCHEMEYER, OF LOUISVILLE, KENTUCKY.

VACUUM-PAN.

SPECIFICATION forming part of Letters Patent No. 789,793, dated May 16, 1905.

Application filed July 28, 1904. Serial No. 218,464.

To all whom it may concern:

Be it known that I, HENRY W. BUSCHEMEYER, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Vacuum-Pans, of which the following is a specification.

My invention relates mainly to those pans that are used to make the finer products, where it is important that any burning or destructive distillation should be avoided and that all remnants after the process should be fully and readily cleaned off. Hence the interior of the pan must be everywhere readily accessible. At the same time I provide the greatest practicable surface for radiating or otherwise diffusing heat. I attain these ends by the mechanism illustrated in the accompanying drawings, (three sheets,) in which—

Figure 1 is a vertical section from front to rear; Fig. 2, a vertical front view; Fig. 3, an interior view parallel to that in Fig. 2, and Fig. 4 is a perspective view of the "folds" peculiar to my invention with the adherent parts.

The same letters in each of the figures indicate the same parts.

A denotes the outside wall of the upper part of the vessel or vacuum-pan, made of metal, which in its horizontal section may be either round, oval, or quadrangular.

B denotes the lower part of the vessel or pan connected with the upper in the manner hereinafter described.

C, as seen in Figs. 3 and 4, (1 only indicates the place for it,) denotes metal plates in the shape of folds, preferably made of cast-iron, with their upper surfaces coated with porcelain enamel.

D is a manhole or hole for the arm with an air-tight hinged lid to close it.

E E E, &c., are eyeglasses, well known in use. There are others opposite those shown in Fig. 2. Fig. 1 shows some on both front and rear.

G is the opening for exhausting the air with the vacuum-gage, and F is the pipe to carry off evaporation.

H H are inlet and outlet pipes for air, steam, and water.

I is a thermometer.

D, E, F, G, H, and I are in common use now.

J J are gasket and packing between A, the entering folds of C and B, or any two of them. One of these gaskets is shown in Fig. 3 as it appears from the inside.

K is a gage for the heating and steam which enters the pan, (old.)

L is a valve to draw off the product, (old;) M, an outlet for water and steam, (old.)

N N are stanchions to hold the walls apart.

O O are flanges girdling the pan where the upper and lower part meet, (old.)

P P are holes in the rear wall of B outside of the hanging basket, through which holes the steam, &c., for heating is introduced. In vacuum-pans now in use these holes usually lead into pipes which are carried in coils through the pan, which coils obstruct the circulation of the liquor.

The whole inside of the pan that comes into contact with material or product, including the upper surfaces of C C, is lined with porcelain enamel. The raw material is drawn up and rests on these folds while the evaporation proceeds. These folds extend at right angles to the plane of Fig. 3. They are, as shown in Fig. 4, closed at the front and rear by sheaths, (marked C' C'.) The two folds at the extreme left and right lap over into the interstices between A and B. So, also, do the sheaths C' C', lapping over in like manner at the front and rear and reaching there into the interstices between A and B. A hanging basket is thus formed which receives the material—such as syrup, fruit-juice, &c. Between this basket and the bottom part B of the pan there is a narrow chamber which receives the hot steam or other means of heating the pan.

The object of the folds is to offer the largest possible surface of hot metal, to conduct and to radiate heat into the vacuum-pan without obstructing, as the coiled pipes hitherto in use do, access to all parts of the pan for either removing the product or for cleaning the interior of the pan of remnants or other impurities.

The object of the enamel is to prevent adhesion of either material or product and to facilitate thorough cleaning, also to avoid the metallic flavor.

Of course the folds C C may be shallow or

deep, according to the nature of the material used. This material, for instance, may be so high-priced that only enough for rather shallow folds might be wanted. The hanging
5 basket containing these folds can be taken out from between the parts A and B and replaced by another basket with deeper or with shallower folds as the material to be evaporated is changed, while the parts A and B, with all
10 their belongings, remain unchanged.

What I claim as new, and desire to protect by Letters Patent, is—

In a vacuum-pan a steam-tight metallic hanging basket for receiving the material, the bot-

tom of which basket is worked into folds, so as to greatly increase its surface, and which basket fits steam-tight into the outer walls of the pan and has around and below it a chamber for the introduction of the heating agent, substantially as described and shown in the
2 drawings.

Signed at Louisville, this 25th day of July, 1904, in presence of below witnesses.

HENRY W. BUSCHEMEYER.

Witnesses:

KATIE E. RAGOWSKY,
A. LINCOLN DEMLITZ.