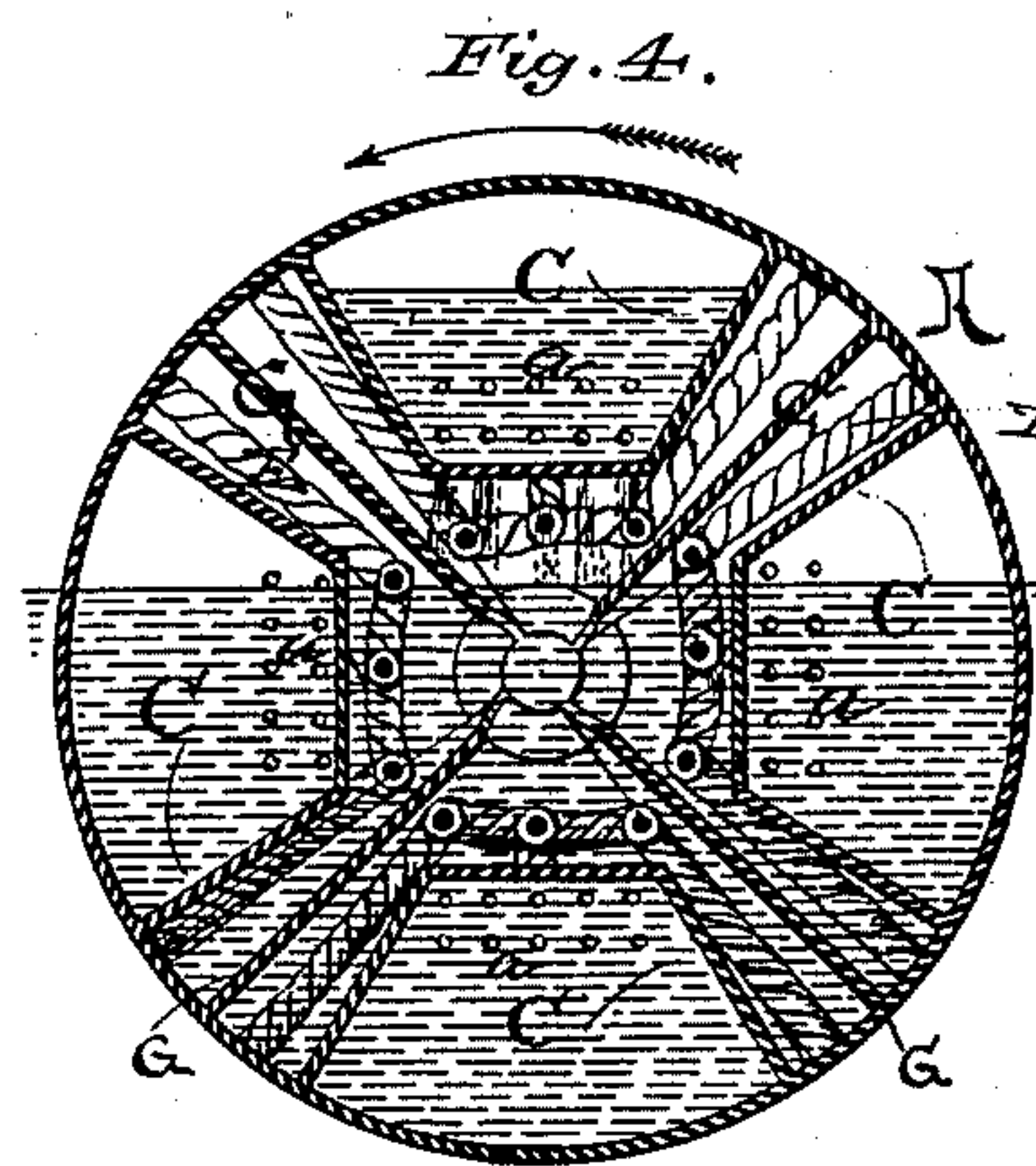
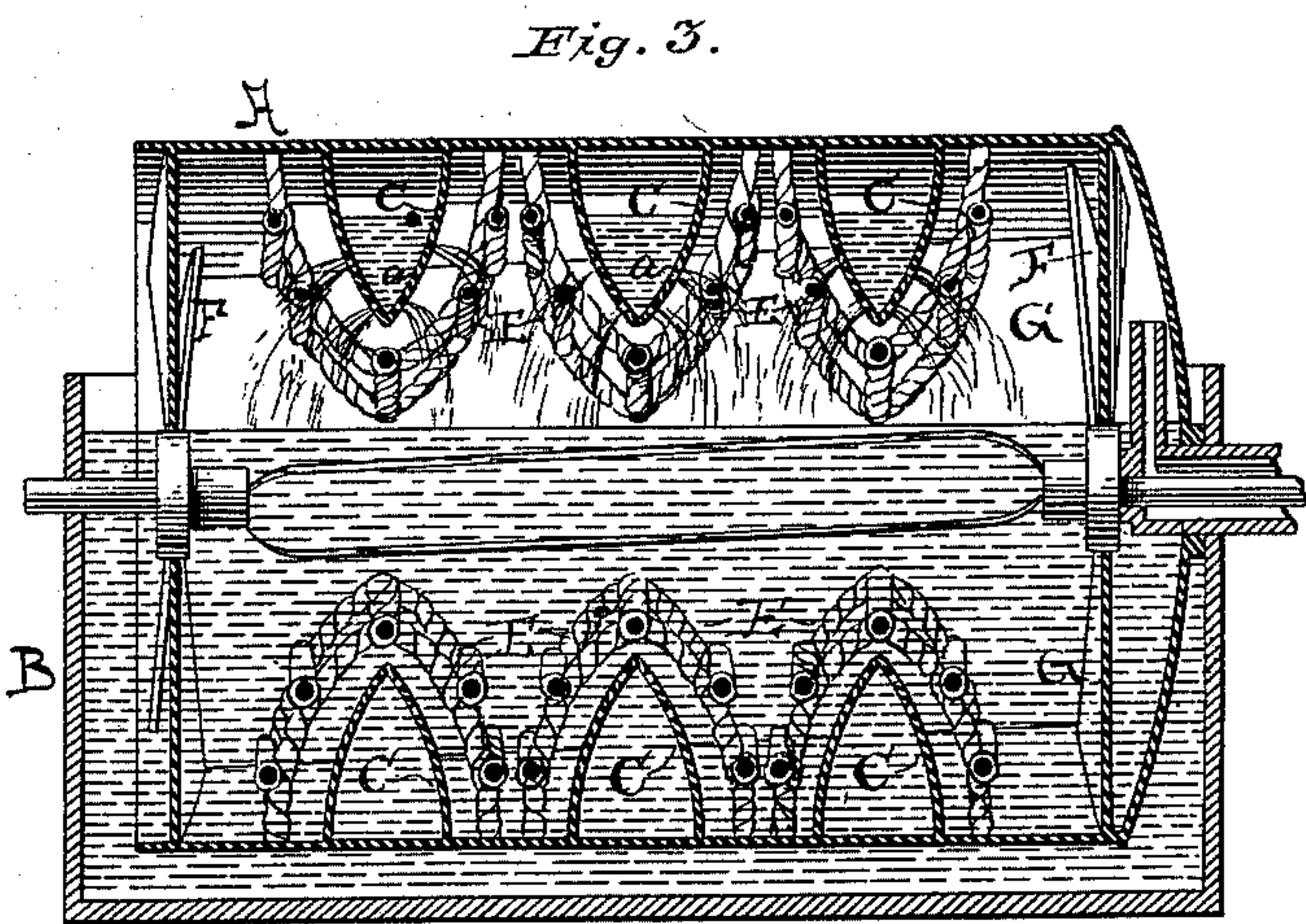
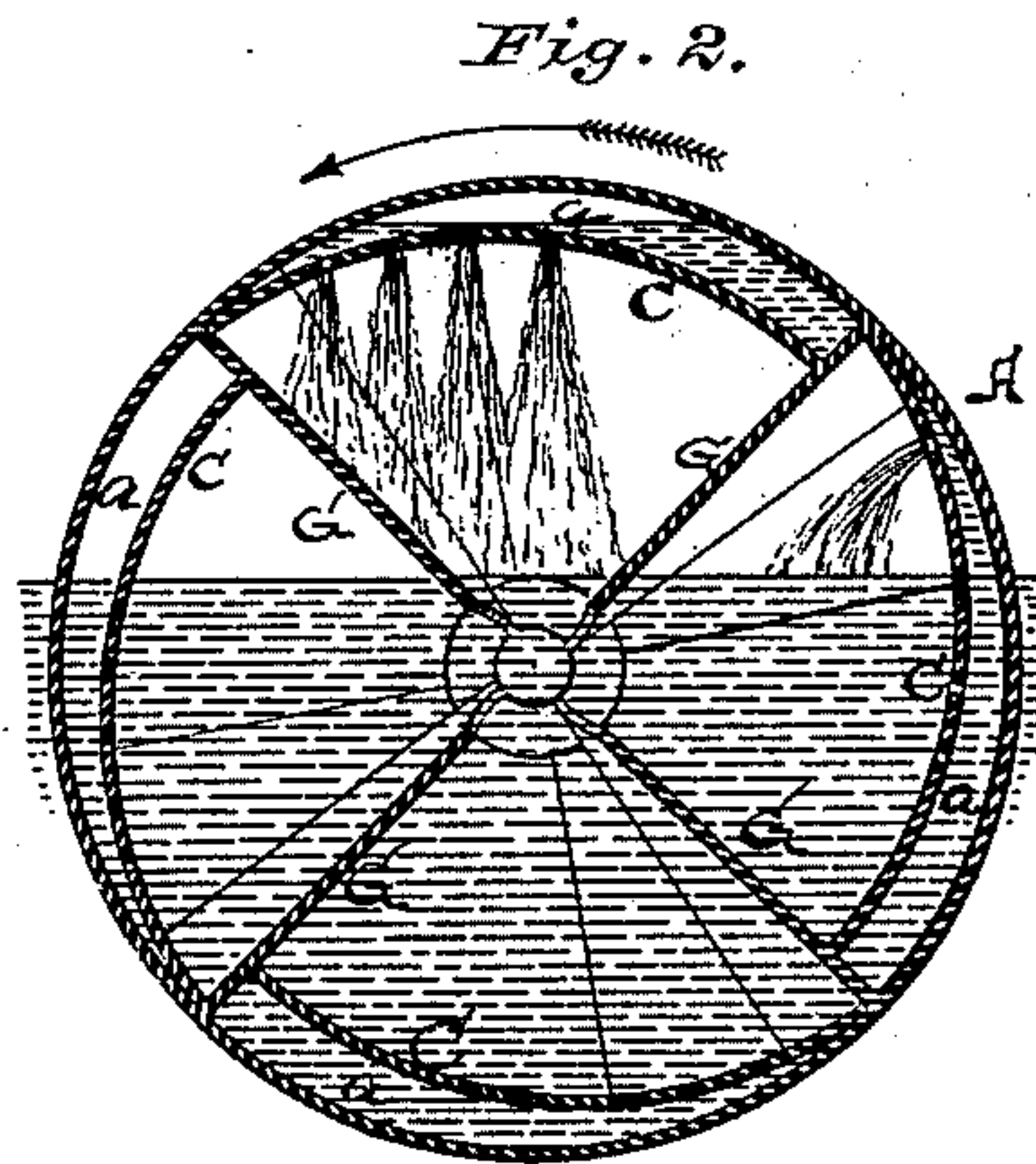
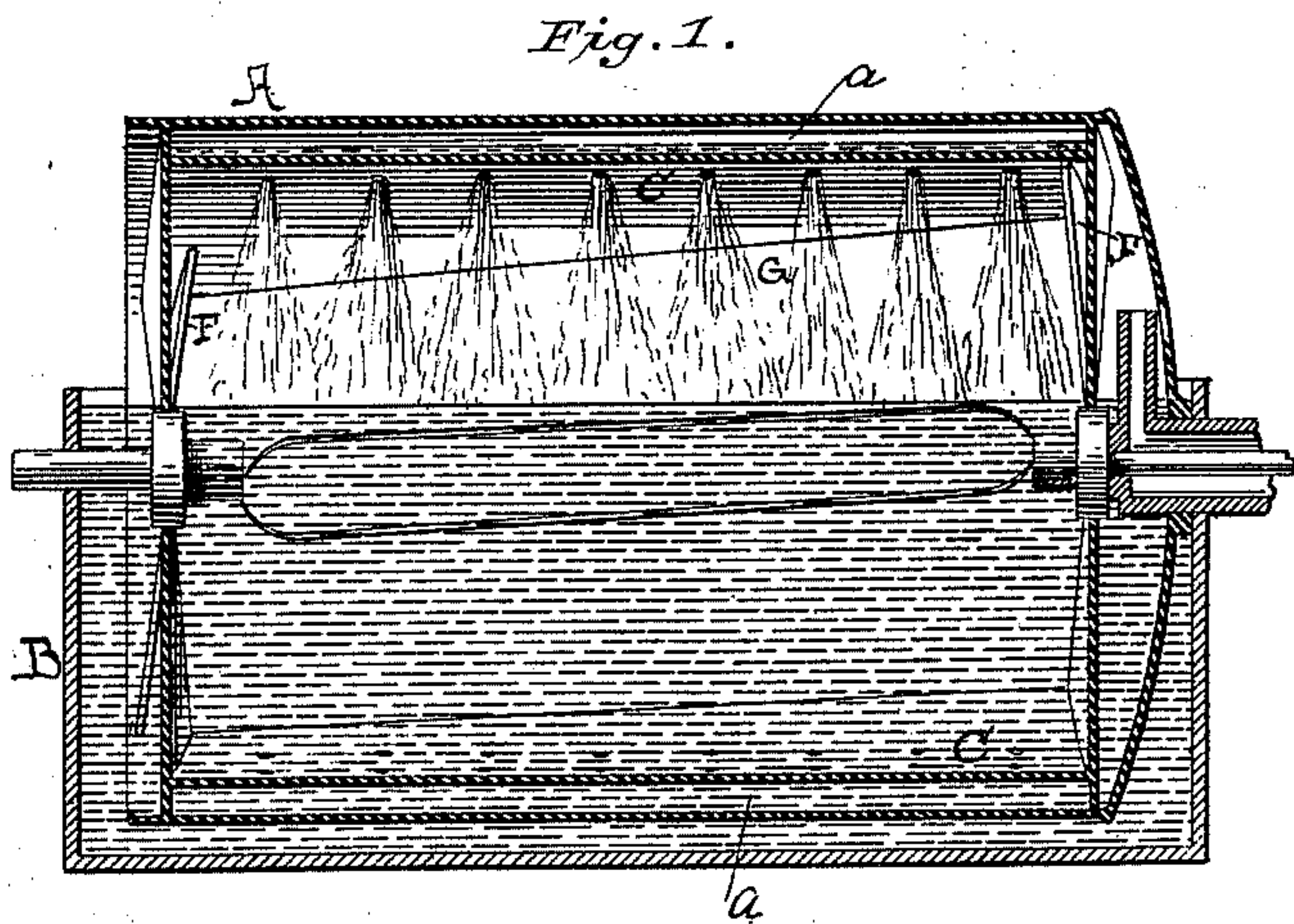


H. C. DE WITT.
Carbureter.

No. 223,582.

Patented Jan. 13, 1880.



Witnesses:

C. Clarence Poole
A. B. Smith

Inventor:

H. C. De Witt
By his Attor
R. D. Smith

UNITED STATES PATENT OFFICE.

HENRY C. DEWITT, OF CHICAGO, ILLINOIS.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 223,582, dated January 13, 1880.

Application filed November 29, 1879.

To all whom it may concern:

Be it known that I, HENRY C. DEWITT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Carbureters; and I do hereby declare that the following is a full and exact description of the same, having reference to the accompanying drawings, wherein—

Figure 1 is a longitudinal section of my carbureter. Fig. 2 is a transverse section of the same. Fig. 3 is a longitudinal section, showing a modified structure; and Fig. 4 is a transverse section of the same.

Carbureters have heretofore been constructed with devices for pumping or elevating the liquid hydrocarbon from the fluid mass in the bottom of the carbureter, and discharging the same upon absorbent material through which the air-current is forced and carbureted by absorption of the volatile portions of said liquid; but the absorbent material retains within its fibers portions of said liquid, which finally become thick and gummy, and the volatility of the mass is diminished thereby, until finally it becomes non-volatile at the temperature of the air. This result does not take place when the liquid hydrocarbon is continuously exposed to the passing current of air in the form or condition of shower or spray without the intervention of absorbent material, or when absorbent material merely forms a surface or coating to retard the flow of the liquid hydrocarbon over a non-absorbent surface.

My invention therefore consists in a cylinder provided with an inner perforated shell formed in compartments, whereby the liquid hydrocarbon is continually withdrawn from the liquid mass at the bottom of the carbureter, and passed through the current of air in the form of shower or spray.

It also consists in a fibrous or absorbent coating or covering for the non-absorbent surfaces of the grating within the carbureter to retain the flow of the liquid hydrocarbon over the surfaces of the same.

That others may fully understand the construction and operation of the device shown in the accompanying drawings, designed to give effect to my invention, I will particularly describe the same, without, however, design-

ing to confine myself exactly to the details of structure shown therein.

A is the pump-cylinder, which I propose to employ also as the carbureter. Thereby I secure the benefit of an anhydrous liquid seal for the pump and simplify the apparatus. The cylinder A may be located in the tank B, or it may constitute both tank and cylinder, after the manner of another invention of mine, for which application for Letters Patent was filed November 14, 1879.

The exterior wings, F, and the interior vanes or wings, G, are therefore similar to those heretofore in use; but between the vanes, and next the periphery of the cylinder A, inside thereof, I place other wings, C C, which join the radial wings at a little distance inward from the periphery of the case, and at their opposite edges they approach or join the peripheral inclosure of the cylinder A, thus forming an inner case, between which and the outer case are spaces *a*, which fill with liquid hydrocarbon at each revolution of the cylinder A. The wings C are perforated along their free margin for a distance equal to half their width, or thereabout, and the liquid which is taken up behind them is poured out through said perforations in a shower as the wings pass over the vertex. The rear portions of the wings C are not perforated, for the reason that they then act to retain a portion of the hydrocarbon liquid until the vane C becomes more or less nearly level, when said liquid runs forward over the perforated surface of the vane, and maintains the shower until said vane again becomes nearly vertical and dips into the liquid mass at the bottom of the carbureter.

The modification shown in Figs. 3 and 4 consists of a lattice, E, of wire or other proper material, placed within the carbureter, said lattice being covered with a coating of some absorbent material, or such material as will retard the flow of the liquid hydrocarbon, such as thin cloth, &c. These lattice structures are useful in machines of large capacity. They expose a great expanse of surface to the passing air without materially retarding its flow, and therefore enable a carbureter of moderate size to pass large volumes of air through it, and very rapidly, with a proper degree of impregna-

tion. When the gratings are employed I may increase the capacity of the wings C by causing them to protrude downward within the gratings, as shown in Figs. 3 and 4; but these are non-essentials to the principles of my apparatus.

Having described my invention, what I claim as new is—

1. The revolving carbureter and pump A, combined with the inner case or wings, C, perforated as described, whereby a portion of the hydrocarbon liquid is taken up at each revolution and delivered in shower or spray to the current of air passing through the machine, as set forth.

2. A revolving carbureter provided with internal perforated wings or vanes, C, whereby portions of the liquid hydrocarbon are taken up and delivered in shower or spray to the passing current of air, combined with an interior grating, E, the surface of which is covered with a thin absorbent coating, as and for the purpose set forth.

HENRY C. DEWITT.

Witnesses:

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