

(No Model.)

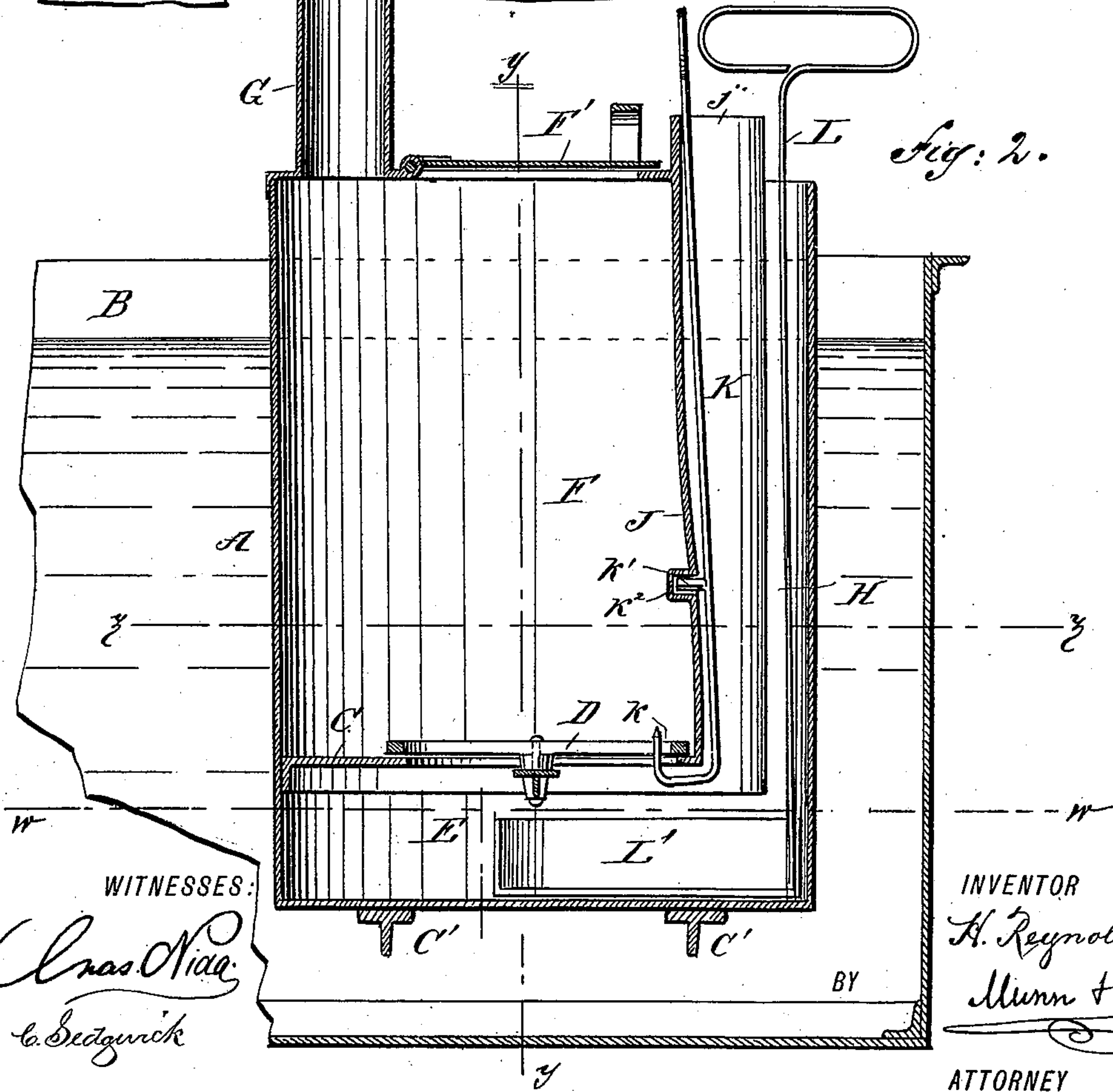
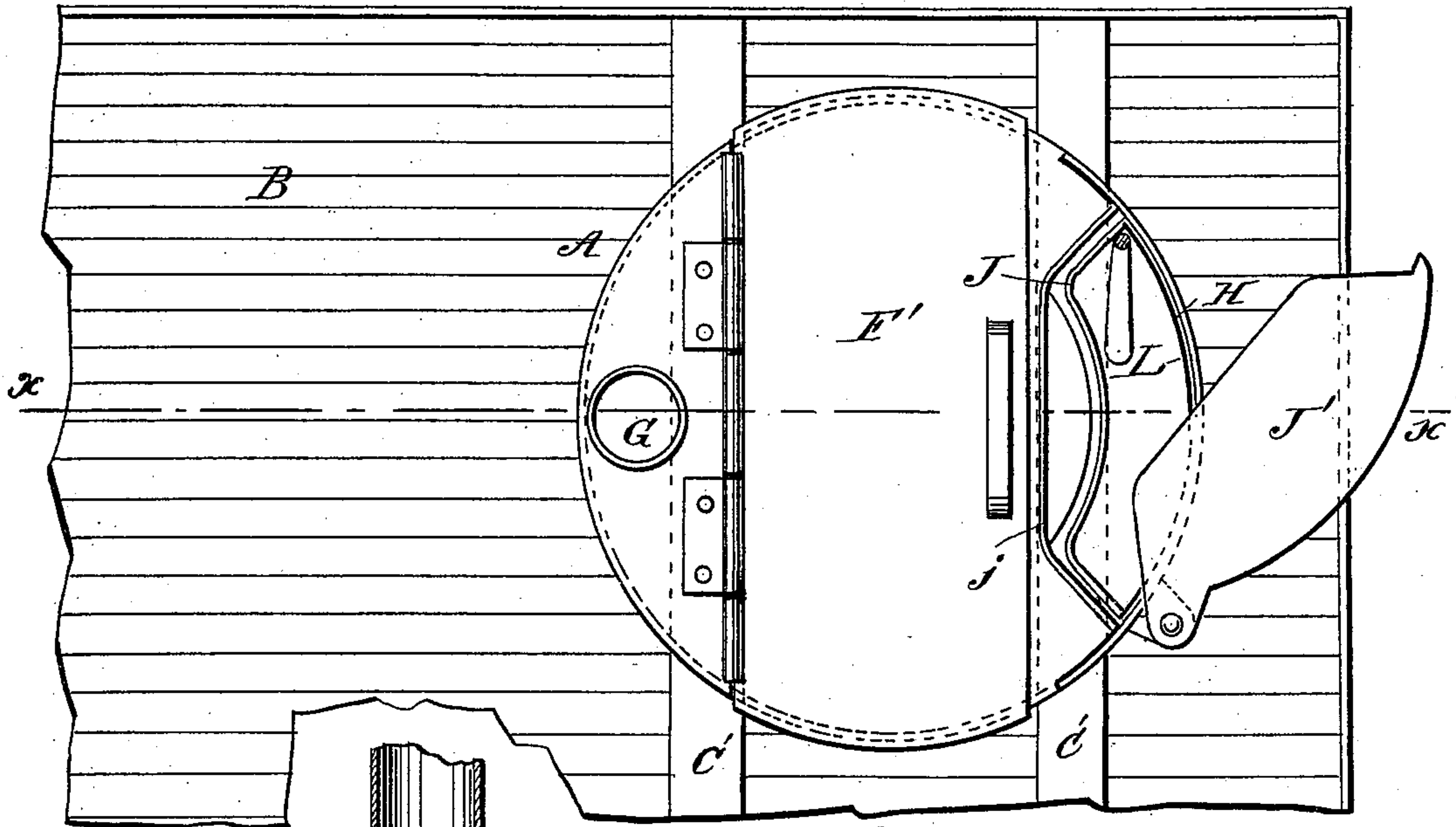
2 Sheets—Sheet 1.

H. REYNOLDS.
TANK HEATER.

No. 405,052.

Patented June 11, 1889.

Fig: 1.



WITNESSES:

Chas. A. Rice
C. Sedgwick

INVENTOR

H. Reynolds
Munn & Co

ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

H. REYNOLDS.
TANK HEATER.

No. 405,052.

Patented June 11, 1889.

Fig. 5.

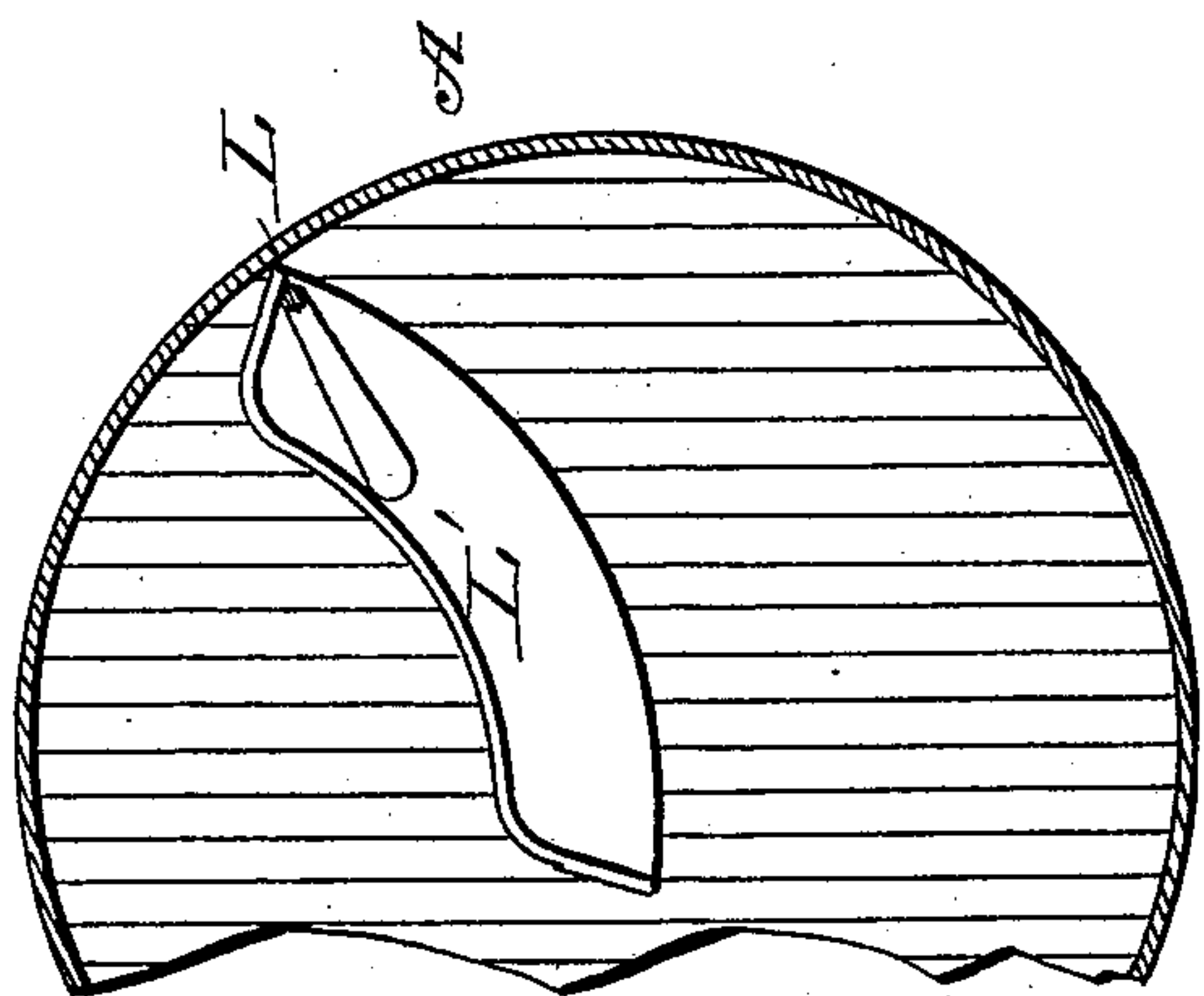


Fig. 3.

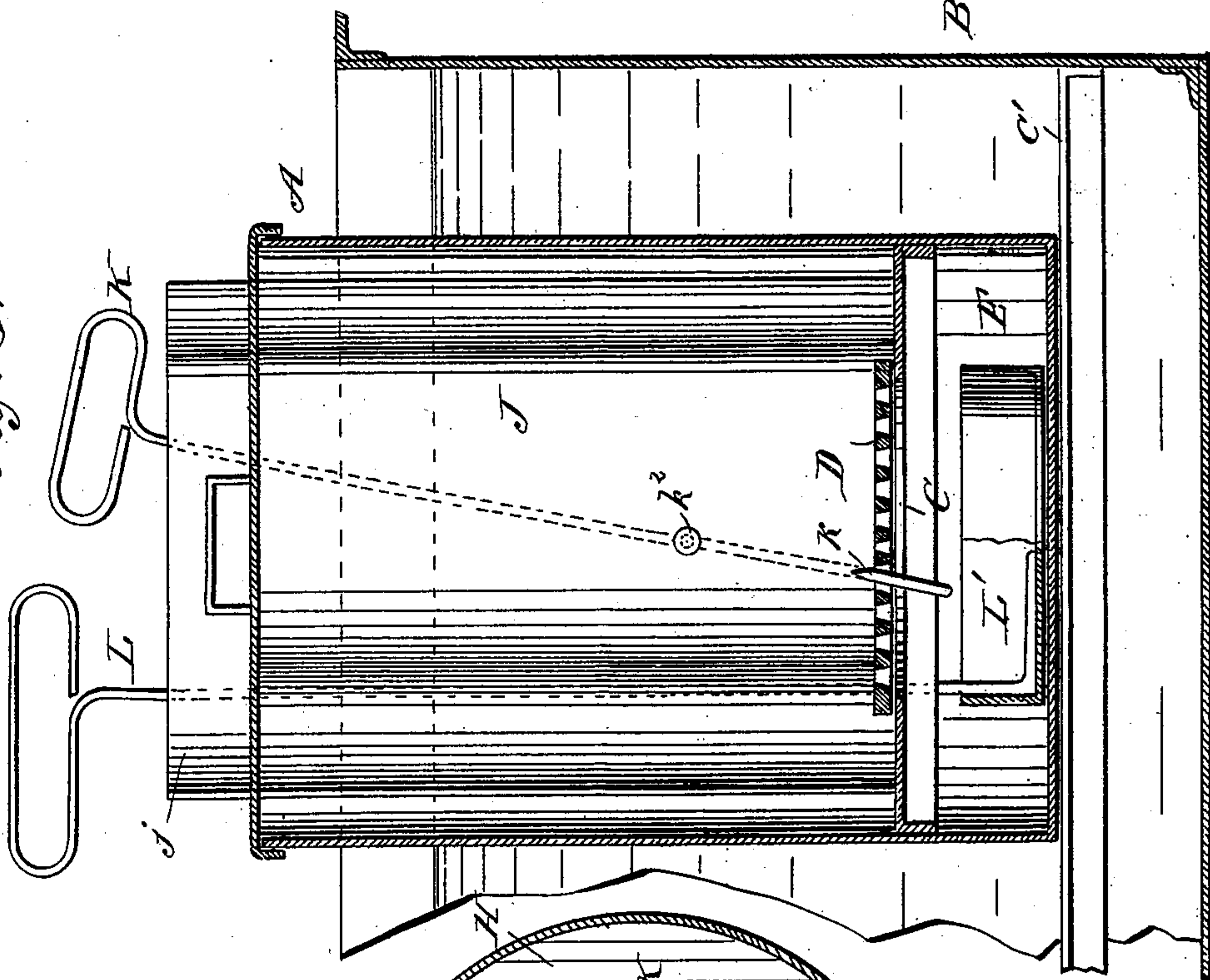
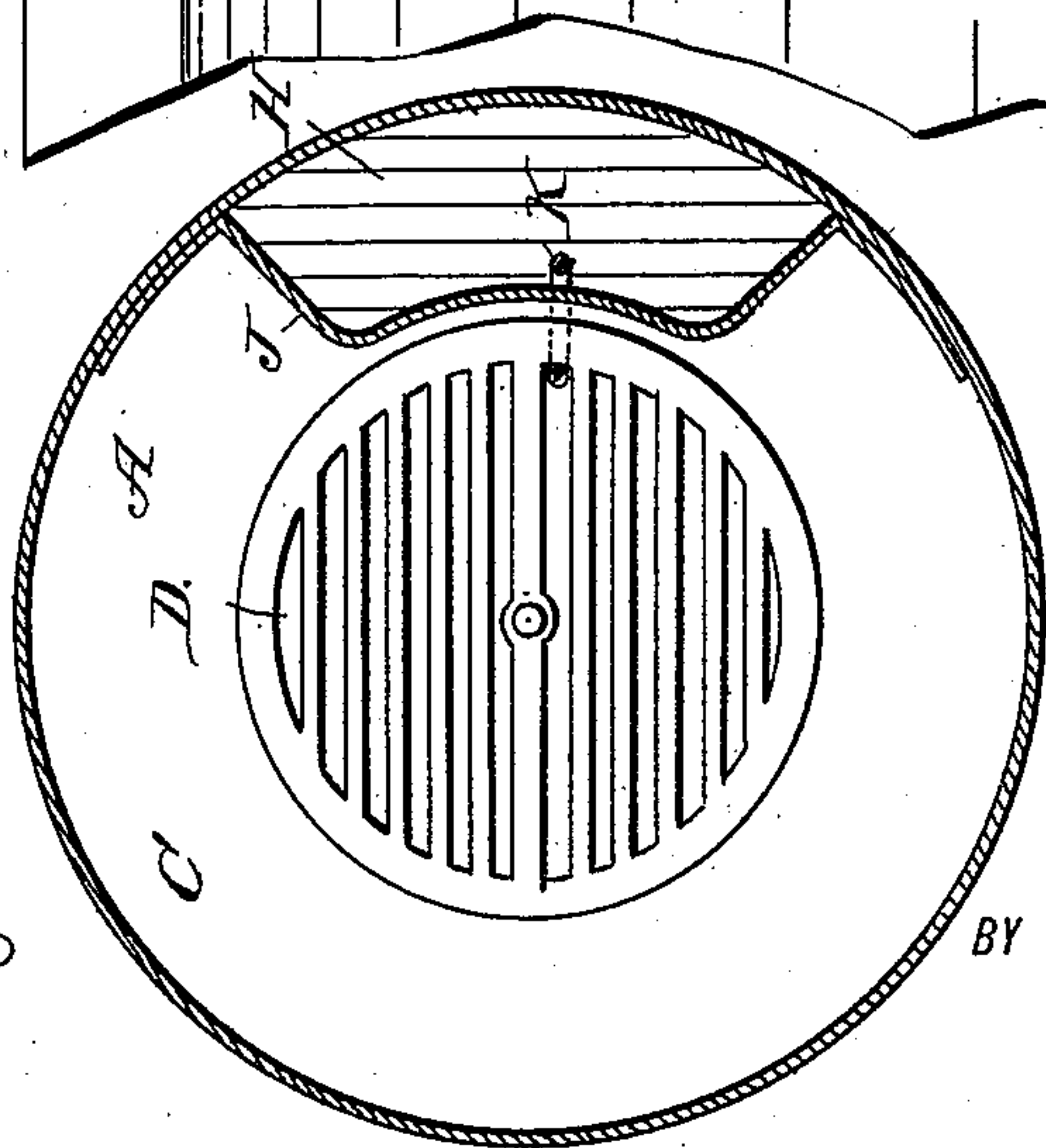


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HANFORD REYNOLDS, OF GIFFORD, ILLINOIS.

TANK-HEATER.

SPECIFICATION forming part of Letters Patent No. 405,052, dated June 11, 1889.

Application filed February 13, 1889. Serial No. 299,707. (No model.)

To all whom it may concern:

Be it known that I, HANFORD REYNOLDS, of Gifford, in the county of Champaign and State of Illinois, have invented a new and Improved Tank-Heater, of which the following is a full, clear, and exact description.

My invention is designed more particularly for warming or heating water in large water-tanks to keep the water from freezing; and the invention consists, principally, in constructing the heater with a side chamber, through which the fire may be raked and the ashes removed without removing the heater from the tank and without extinguishing the fire, as must be done with the tank-heaters now in use.

The invention also consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the heater and tank. Fig. 2 is a vertical section on line xx of Fig. 1, showing the shaker and shovel in position for use. Fig. 3 is a similar view on line yy of Fig. 2. Fig. 4 is a sectional plan view on line zz of Fig. 2, and Fig. 5 is a similar view on line ww of Fig. 2.

A represents the heater, placed in the tank B upon the cross-pieces $C' C'$. The heater is, by preference, made cylindrical in form and of galvanized sheet-iron or other suitable material, and water-tight. Near the bottom of the heater is fitted the annular flange C, over the central opening of which is held the centrally-pivoted grate D. The space E below the flange and grate forms an ash-pit and draft-space for air to pass through the combustion-chamber F to the flue or pipe G.

H represents a side passage for air and for the removal of ashes and for shaking down the fire. This passage is formed by the partition J, fitted within the heater and flange C, the latter being cut away to conform to it, and the partition, by preference, reaching slightly above the top of the heater to form a flange j , against which the cover J' may be closed, as will be understood from Figs. 1 and 2.

The heater is supplied with fuel at the top and closed by the lid F' , and the grate D is shaken from the top of the heater by the lever or shaker K, which may be thrust down through the lid F' or passed down the side passage H and used, as shown in Figs. 2 and 3, and for this latter purpose the shaker is formed with a hook k at its lower end and with a stud k' near its center, the latter to enter a socket k^2 to form a fulcrum, so that by swinging the top of the shaker from side to side the hook k will turn the grate D on its pivot and shake the ashes into the ash-pit E.

The ashes may be removed from the ash-pit through the side passage H by means of a shovel having an upright handle L and blade L' at right angles to the handle, and of suitable size to pass down through the side chamber or passage H. The handle L of the shovel is attached to one end of the blade L' , as shown clearly in Fig. 5, so the blade can be turned under the grate to gather up the ashes.

My invention is designed for warming water for stock or for any other purpose and for heating liquids in large tanks.

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

1. The casing A, having the flange C, grate D, and vertical partition J, formed with a socket, in combination with the shaker adapted to be fulcrumed at the said socket and engaged at its lower end with the grate, substantially as described.

2. The shaker K, formed with the upwardly-projecting point k at its lower end and stud k' near its center, in combination with the heater having the vertical partition J, forming a side passage, and having the pivoted grate D near its bottom, the partition being formed with a socket to retain the stud k' to fulcrum the shaker, substantially as described.

HANFORD REYNOLDS.

Witnesses:

WM. A. WOOLDRIDGE,
A. C. HOUGH.