

(No Model.)

W. W. FORD.
WASH BOILER.

No. 401,879.

Patented Apr. 23, 1889.

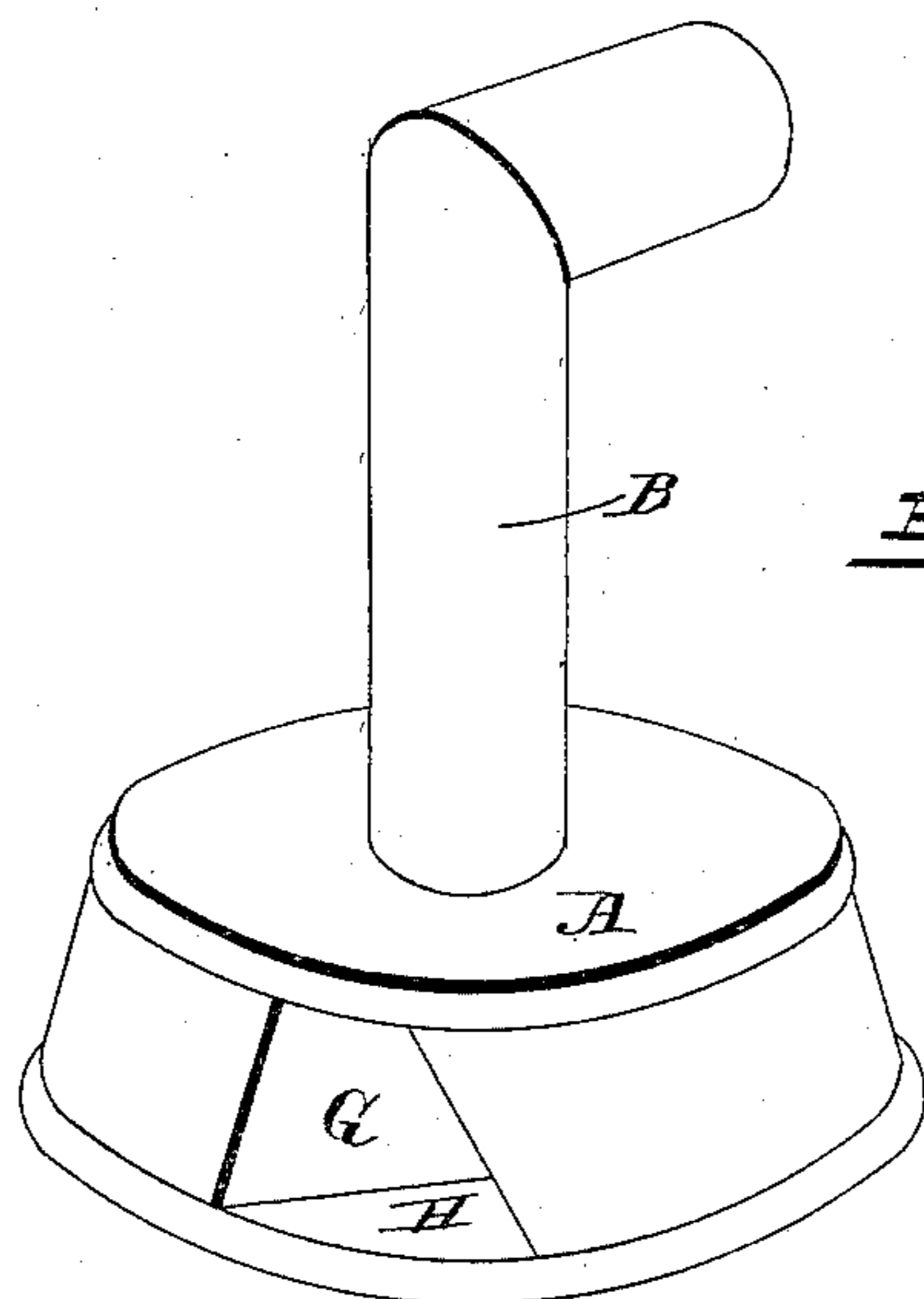


Fig. 1.

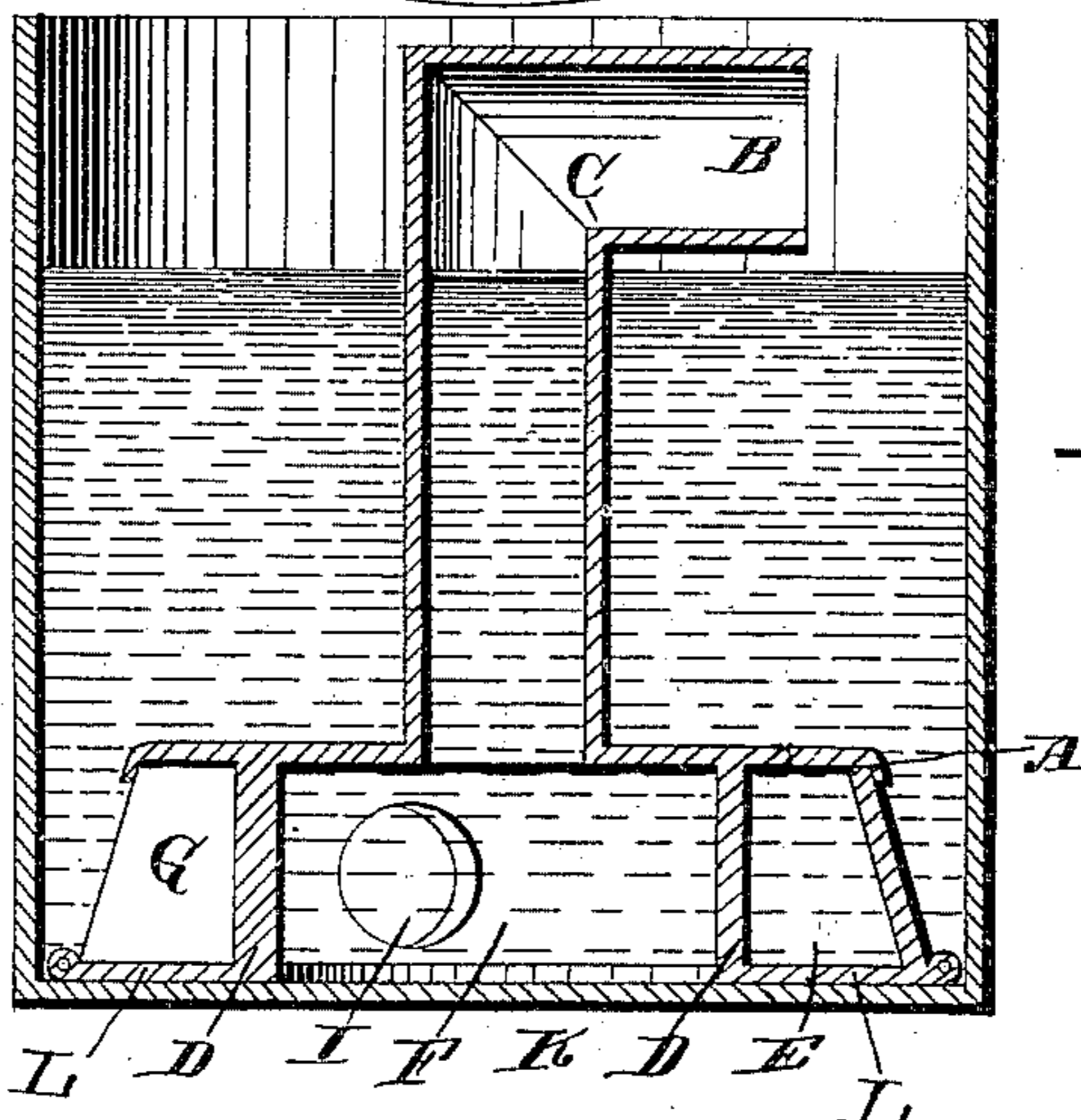


Fig. 2.

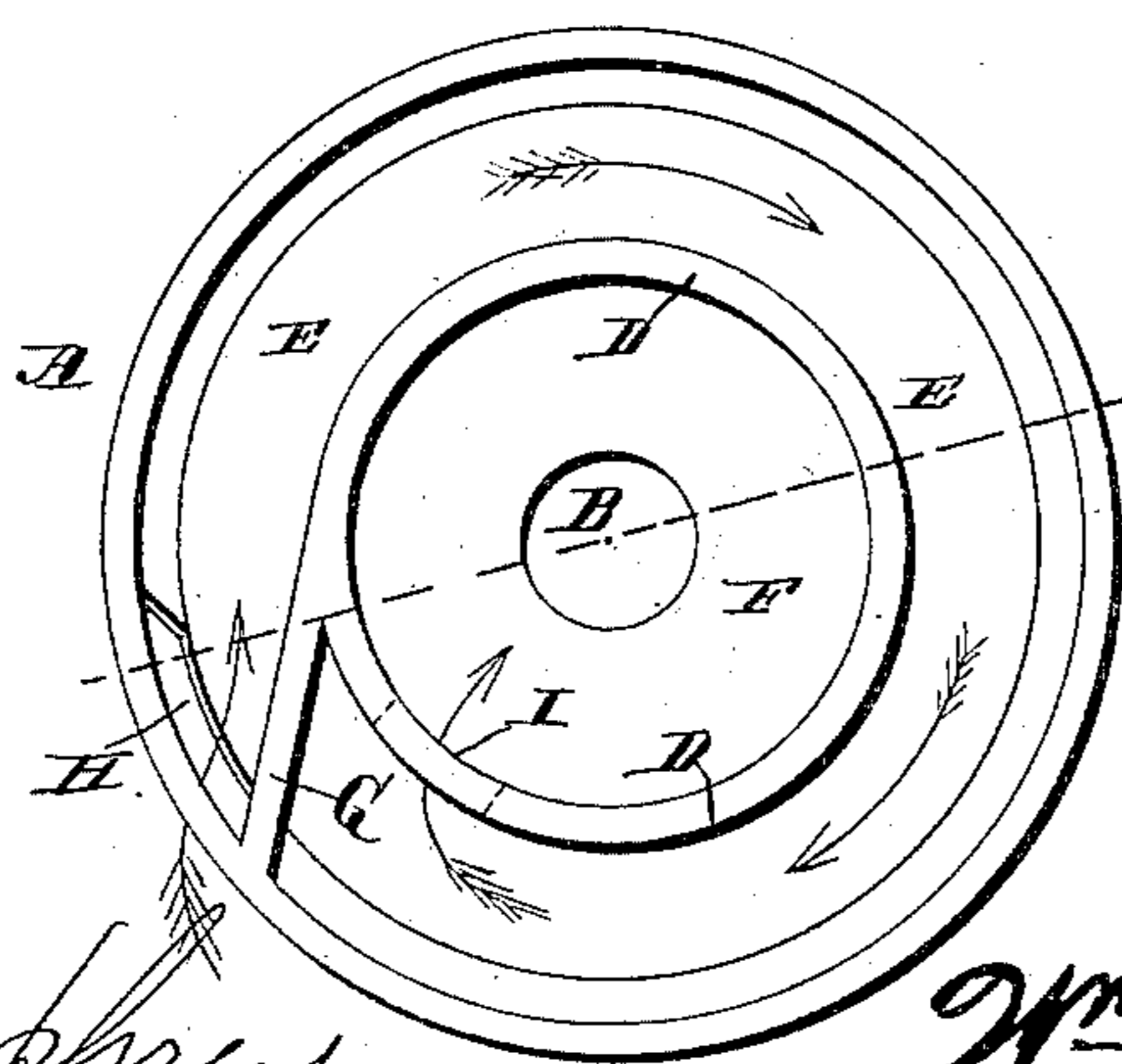


Fig. 3.

WITNESSES.

M. B. Humphrey
E. J. Siggers

INVENTOR,

Wm. W. Ford
by *C. A. Snow & Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM WASHINGTON FORD, OF ELMIRA, NEW YORK.

WASH-BOILER.

SPECIFICATION forming part of Letters Patent No. 401,879, dated April 23, 1889.

Application filed August 6, 1887. Renewed March 27, 1889. Serial No. 305,045. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WASHINGTON FORD, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing-machines; and it consists in a certain peculiar and novel construction and arrangement of parts, fully set forth hereinafter, and specifically pointed out in the claim.

My invention relates to that class of machines which are set in the boiler with the clothes to be cleansed, together with the water and soap, the construction of the device being designed to produce a circulation of the water through the clothes, and thus wash the dirt out of the clothes. In this class of machines the fact that heated water is lighter than cold water and will rise above the latter is taken advantage of to cause this circulation.

In the drawings is illustrated a washer embodying my improvements, in which—

Figure 1 is a perspective view. Fig. 2 is a section of the same, showing the device in operative position in a boiler. Fig. 3 is a bottom plan view, with the bottom removed to show the chambers.

Referring by letter to the drawings, A designates the circular body of the device, having a circular opening in the center of the upper side; and B designates a pipe attached at the lower end over the said opening, and bent at right angles at the upper end just above the surface of the water in the boiler, which is shown at C. Within the said body A is a circular partition, D, thus dividing the interior space of the body A into the annular compartment or chamber E and the central circular chamber, F.

G designates a partition extending across the annular chamber E tangentially, and in close proximity to one side of the said partition an opening, H, is formed in the side of the body A, thus forming a communication between the outside and the annular chamber. On the opposite side of the inclined partition G an opening, I, is formed through the circular partition D, thus opening com-

munication between the circular and the annular chambers.

It will be understood that the vertical pipe B communicates with the central chamber, and thus all the parts of the device are communicating; but any material entering the annular chamber through the opening H must pass entirely around the annular passage or chamber before it can pass through the opening I and enter the central chamber. The partition G being arranged tangentially no angles or recesses are formed at the inlet-opening, and consequently there can be no collecting of a body of still water at that point; but the water is turned directly into the circulating current, and a perfect circulation is thus secured.

An opening, K, is formed in the bottom of the body, under the central chamber, to allow the water contained in the said central chamber to rest directly on the bottom of the boiler.

The device has its central chamber bottomless in order that the water may come directly in contact with the bottom of the boiler, and may consequently be heated higher than at any point within the outer ring, where there are two thicknesses of metal. Thus steam is formed immediately under the pipe B, and there only. This concentration of the heat at the center adds largely to the force of the current and to the efficiency of the machine. Moreover, steam is not formed in the ring to impede and react on the current.

The operation of the device is as follows: It is placed in the boiler with the bottom thereof resting on the bottom of the boiler. The clothes are placed on and around the body A, and water is placed in the boiler until the surface thereof comes up close to the lower side of the horizontal portion of the pipe. Soap is also added to the water. When the water begins to boil, it will be carried from the central chamber (in which it will obviously become hot sooner than in any other place) up the pipe B, and will be discharged out the upper end thereof by the force of the boiling. As the water is drawn from the central chamber, its place must obviously be supplied by the water on the outside, and, as the water is drawn in with great force, a powerful suction is produced. As the water passes

along the narrow passage or chamber E, it becomes heated to a higher degree than it reached on the outside, and when it enters the central chamber and is subjected to the
5 still greater heat therein it is caused to follow the water which has already ascended the pipe, and thus a continuous circulation is produced. Thus the water containing soap is forcibly drawn through the clothes,
10 passed through the device in the center of the boiler, which carries it to the top and discharges it, and thence it passes down and through the clothes, as before, drawing all dirt, &c., quickly and thoroughly out of the
15 same.

Having thus described my invention, I claim—

The herein-described wash-boiler, having a

cylindrical body, the circular casing A within said body, which casing has the central chamber, F, with its floor removed, and the circular passage or channel E, surrounding the said chamber, the incline partition G, between the opening H in the outer wall of the passage E and the opening I in the inner wall thereof, 25 and the pipe B, rising from the roof of the casing around a central opening therein and discharging water back into the body of the boiler.

In testimony that I claim the foregoing as 30 my own I have hereto affixed my signature in presence of two witnesses.

WILLIAM WASHINGTON FORD.

Witnesses:

WELMOT E. KNAPP,

GABRIEL L. SMITHE.