

No. 693,506.

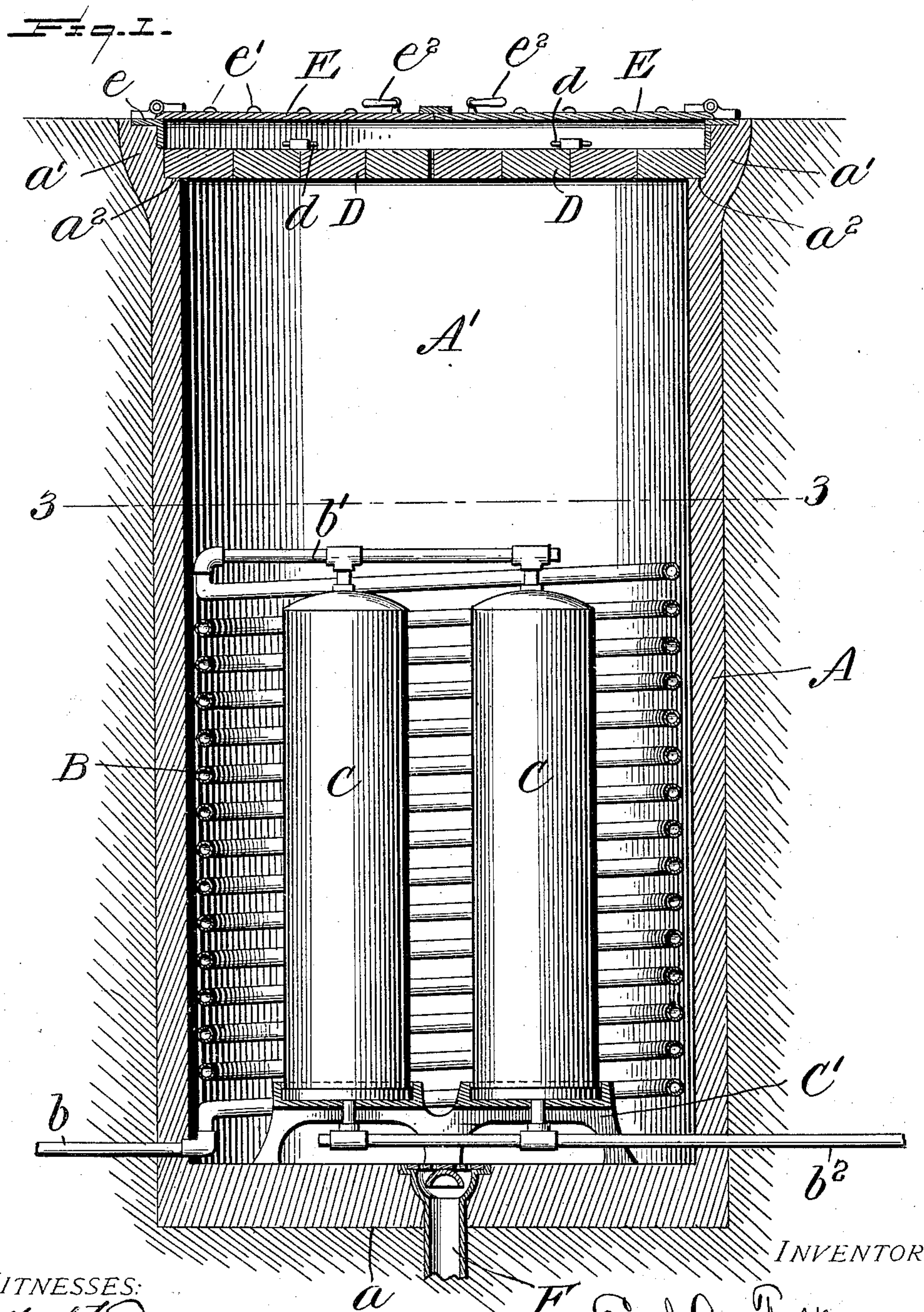
Patented Feb. 18, 1902.

C. A. FALK.
WATER COOLING APPARATUS.

(Application filed Sept. 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Wm. F. Doyle.

J. K. Moore

BY

Carl A. Falk
Whitaker & Perest Attorney &

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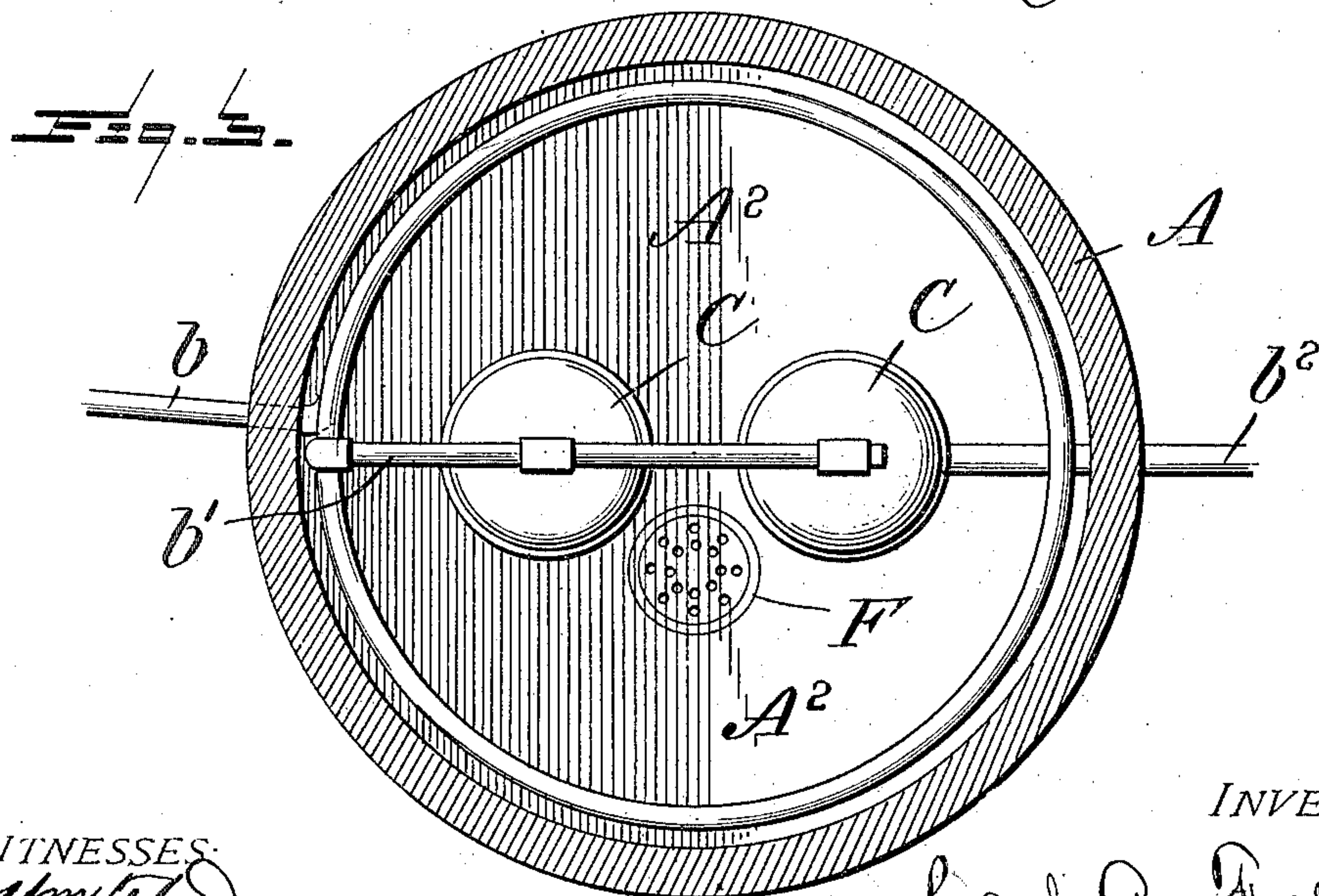
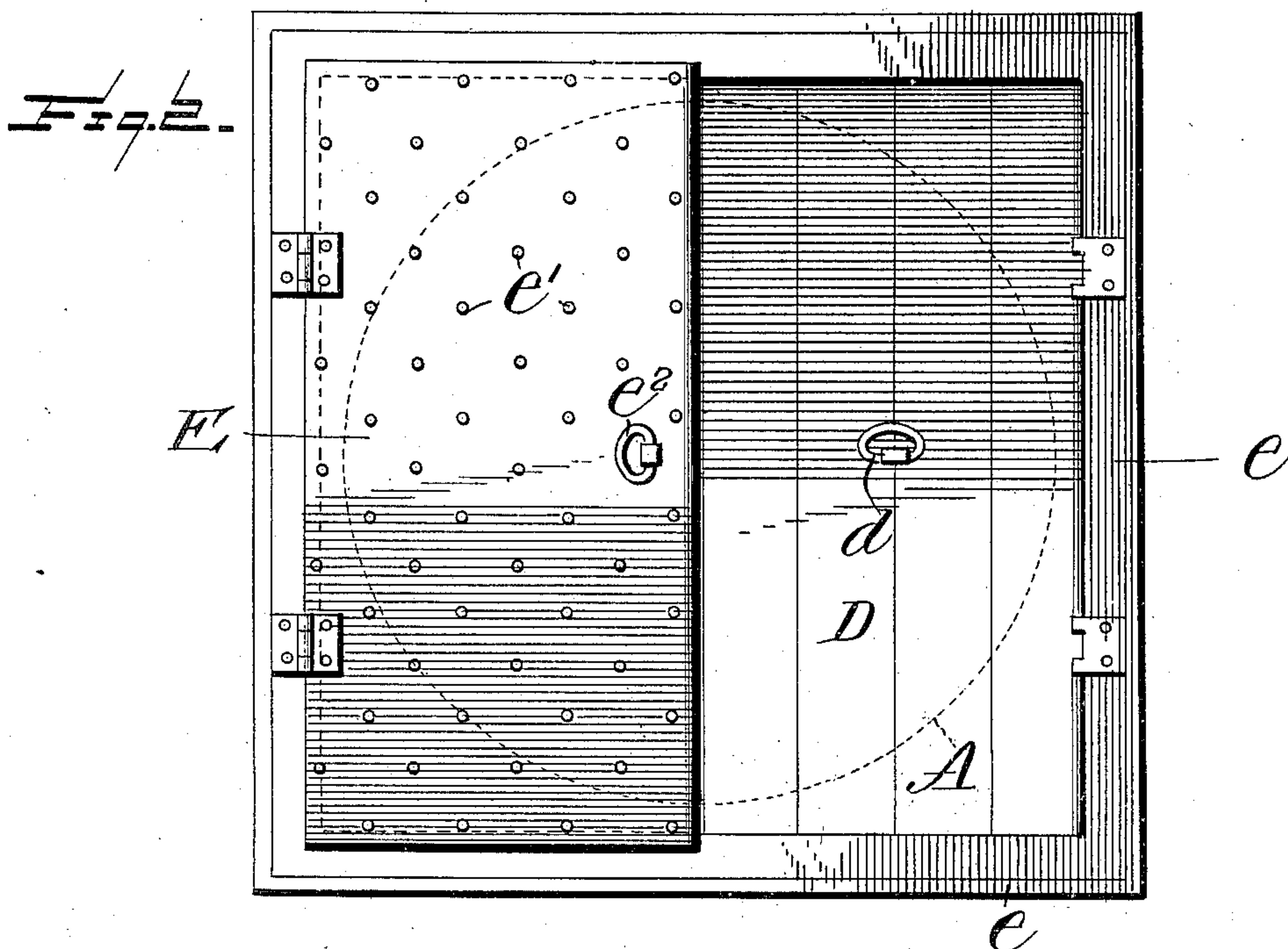
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WITNESSES:

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UNITED STATES PATENT OFFICE.

CARL A. FALK, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE J. L. MOTT
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WATER-COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 693,506, dated February 18, 1902.

Application filed September 20, 1901. Serial No. 75,858. (No model.)

To all whom it may concern:

Be it known that I, CARL A. FALK, a subject of the Emperor of Germany, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Water-Cooling Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in water-coolers for supplying drinking-fountains and the like; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, said invention being fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents a vertical central section of my improved apparatus. Fig. 2 represents a top plan view with one of the protecting-covers removed, and Fig. 3 represents a horizontal section through the apparatus on the line 3 3 of Fig. 1.

Referring to the drawings, A represents a casing or well, which may be composed of any suitable material, but is preferably formed of cement. This well is preferably cylindrical in form throughout the greater part of its length and is provided with a bottom *a*. The upper portion of the well is preferably rectangular in shape for convenience in applying the closing and protecting covers, as illustrated in the drawings, the rectangular portion, which in this instance is square, being indicated at *a'*. This well or casing is adapted to be sunk in the ground, so as to be flush with the surface thereof or otherwise disposed adjacent to the drinking-fountain which is to be supplied with cooled water, and in this instance I have shown it as being located below the surface of the ground.

Within the cylindrical portion of the casing or well I arrange a circular coil of pipes, (indicated at B,) which follows closely the contour of the casing, so as to leave the central portion of the casing open, and in said central portion I locate one, two, or more verti-

cally-disposed reservoirs C C, preferably constructed of galvanized iron and supported upon a suitable stand or pedestal C' above the bottom of the well or casing.

b represents the inlet water-pipe, connected with the main or water-supply, said inlet-pipe being connected to the coil B at its lower end. The upper end of the coil is connected by a pipe *b'* with the reservoir or reservoirs C, and said reservoirs are connected at their lower end to the outlet-pipe *b''*, which conducts the cooled water to the fountain (not shown) or other place where it is consumed. The space within the well or casing above the coil and reservoirs (indicated at A', Fig. 1) and the spaces between the said reservoirs and the coil (indicated at A'') are filled with ice, which is replenished from time to time.

The upper end of the casing or well is provided with a non-conducting cover, preferably formed in two sections, as indicated at D D, for convenience in removing the same to give access to the interior of the casing. These covers are constructed to engage the rectangular portions of the well or casing, and are supported upon a shoulder *a''*, formed therein.

The upper part of the well or casing is provided with a rectangular frame *e*, preferably of cast-iron, to which are secured hinged wrought-iron doors E E, having their upper surfaces provided with raised buttons *e'* or otherwise roughened to prevent persons from slipping thereon. Said wrought-iron doors are also provided with suitable handles *e'' e'''* for raising the doors, and said doors are preferably hinged at their outer edges, so that when raised the entire top of the casing or well is exposed. The non-conducting covers D D, which may be composed of wood or other suitable material, are also provided with suitable handles *d d'*, by means of which they may be lifted bodily out of the way to facilitate the insertion of the ice.

The water entering through inlet-pipe *b* passes through the coil B and is cooled gradually, after which it passes to the reservoirs C C, thus maintaining a large body of cooled water, which is drawn out as required through the pipe *b''*. In the reservoirs the coldest water will naturally find its way to the bottom,

and as the outlet-pipe b^2 is connected to the bottom of each reservoir the water drawn out of the apparatus will always be the coldest water therein.

5 The bottom a of the well or casing is provided with a drain-pipe F , through which the water resulting from the melting of the ice is drawn off and conducted to the sewer, thereby maintaining a state of dry cold within the
10 well or casing.

While I have stated that the well or casing is preferably formed of cylindrical shape with a squared or rectangular upper portion, it is obvious that it might be made cylindrical
15 throughout or square or rectangular throughout if found convenient or desirable. The drawings, however, illustrate my preferred construction.

What I claim, and desire to secure by Letters Patent, is—

1. In a water-cooling apparatus, the combination with a casing or well, of a coil of pipe arranged around the wall of said well, a reservoir in said well, within said coil, spaces
25 being provided between the reservoir and the coil for cooling material, an inlet-pipe connected to the coil, an outlet-pipe connected to the lower part of the reservoir, and a connection between the top of the reservoir and said
30 coil, and a closing device for the upper end of said well, substantially as described.

2. In a water-cooling apparatus, the combination with a casing or well adapted to be placed under ground, of a circular coil of pipe
35 arranged around the wall of said well, a plurality of reservoirs in said casing or well,

within said coil, spaces being provided between the reservoirs and the coil for cooling material, a water-supply pipe connected to said coil, an outlet-pipe connected to the bottom portions of each of said reservoirs, a connection from said coil to the top portion of each of said reservoirs and a closure for the upper portion of said well or casing, substantially as described. 40 45

3. In a water-cooling apparatus, the combination with the well or casing adapted to be placed under ground and having its upper end rectangular in cross-section, of a removable non-conducting cover fitting the upper
50 end of said casing, a movable protecting-cover engaging said casing above the non-conducting cover, and arranged flush with the surface of the ground, a coil of pipe within said casing arranged adjacent to the wall
55 thereof, a plurality of reservoirs located in said casing within said coil, spaces being provided between said reservoirs and said coil for cooling material, an inlet-pipe connected to the lower end of said coil, a connection between the upper end of said coil and the upper end of each reservoir, an outlet-pipe connected to the lower end of each reservoir and a draining-pipe connected to the bottom of said well or casing, substantially as described. 60 65

In testimony whereof I affix my signature in the presence of two witnesses.

CARL A. FALK.

Witnesses:

MATTHEW J. MORONEY,
JAMES H. SMITH.