

No. 677,138.

Patented June 25, 1901.

J. M. MARTY.
CHEMICAL FIRE EXTINGUISHER.

(Application filed Apr. 30, 1900.)

(No Model.)

3 Sheets—Sheet 1.

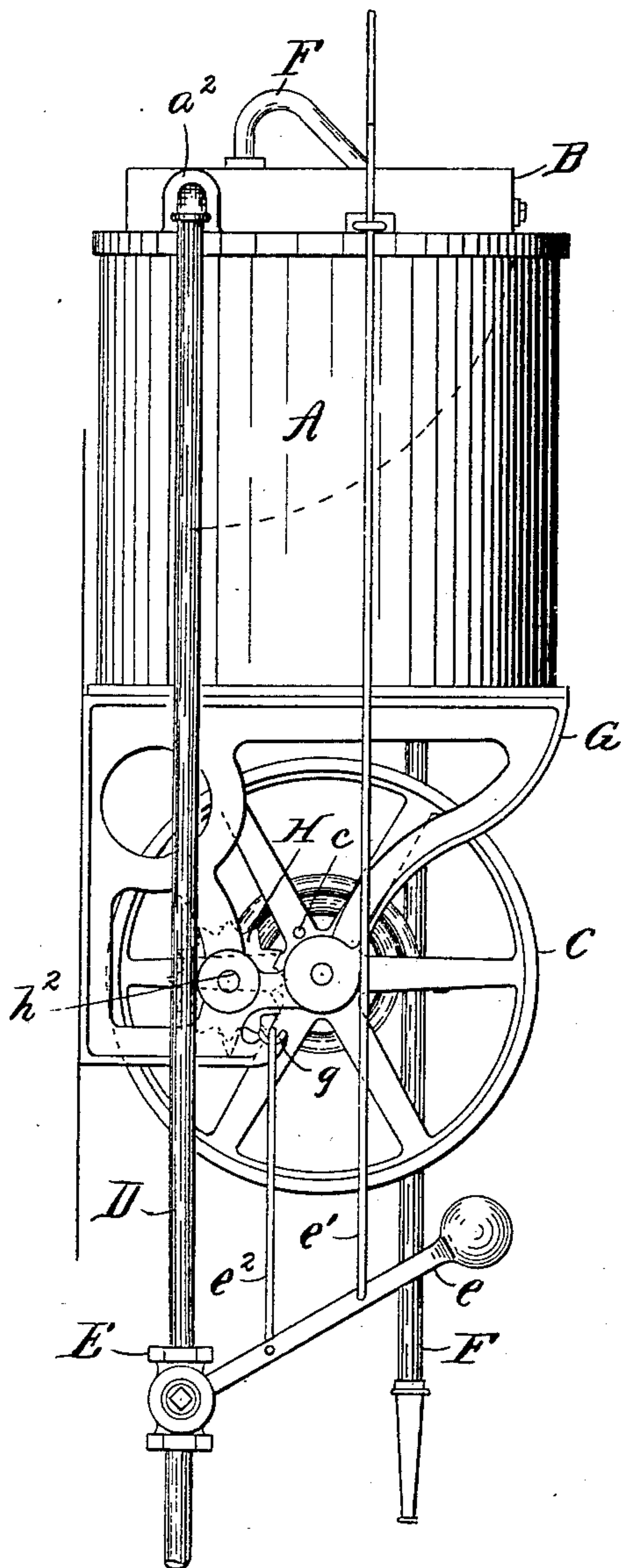


Fig. I

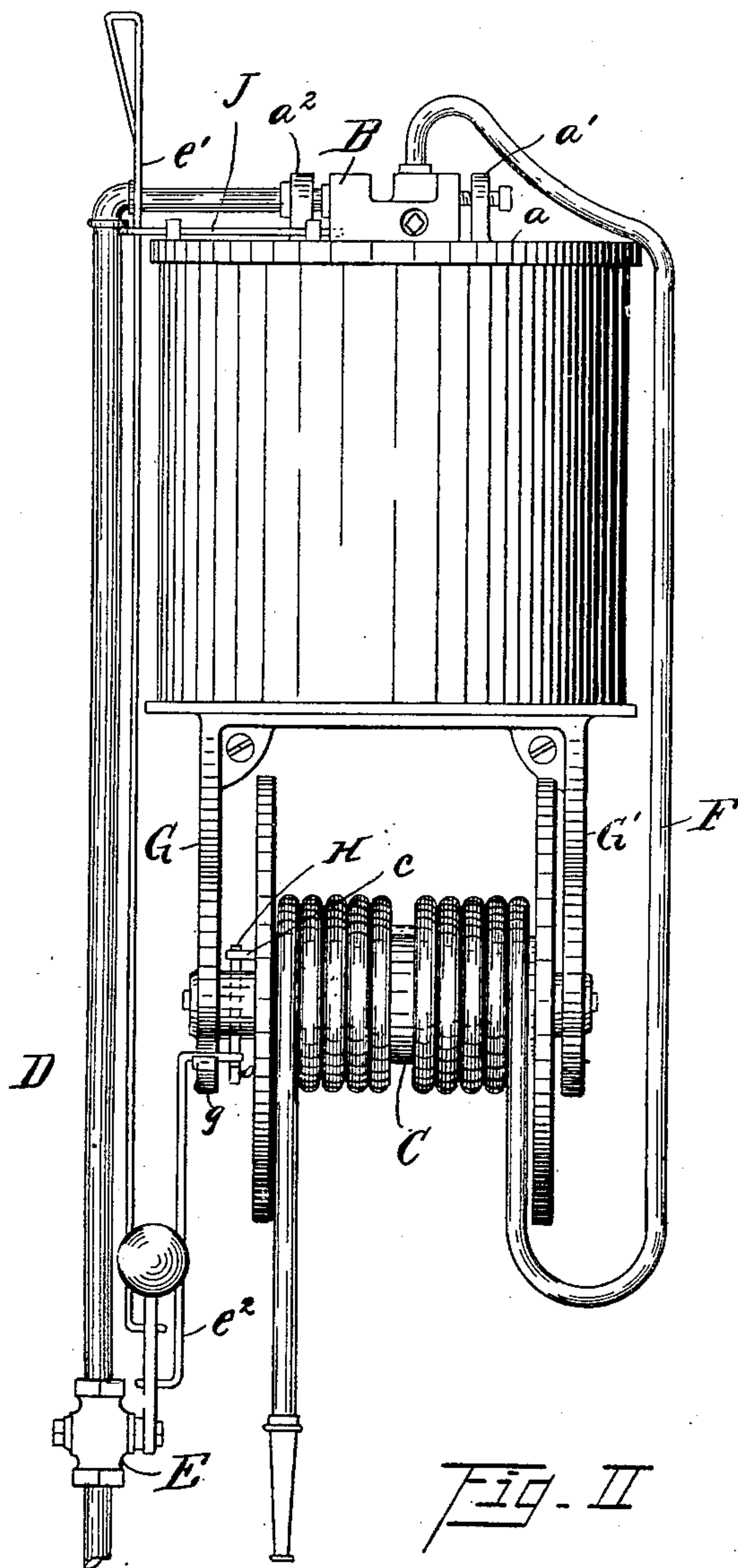


Fig. II

Witnesses:

L. S. Diebold

Charles J. Brooke

Inventor.

John M. Marty
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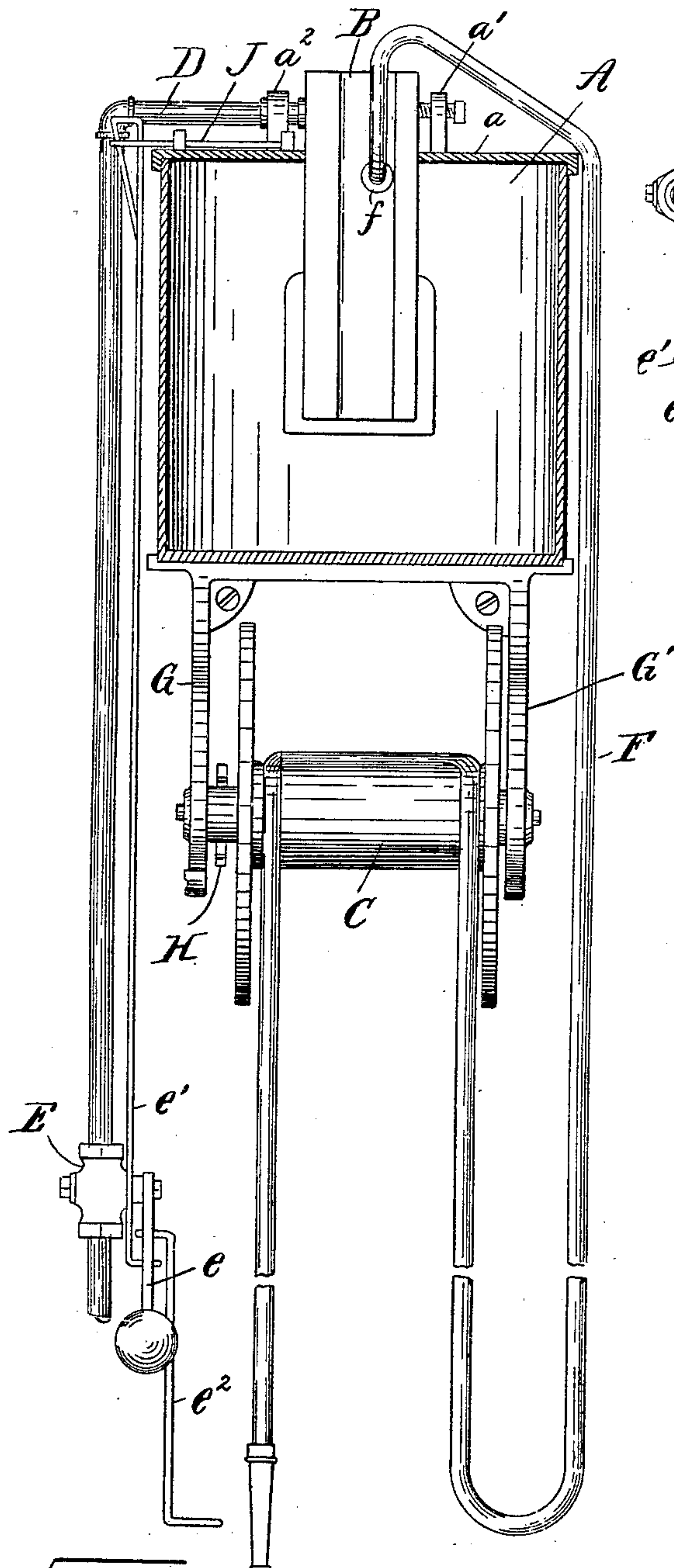


Fig. III

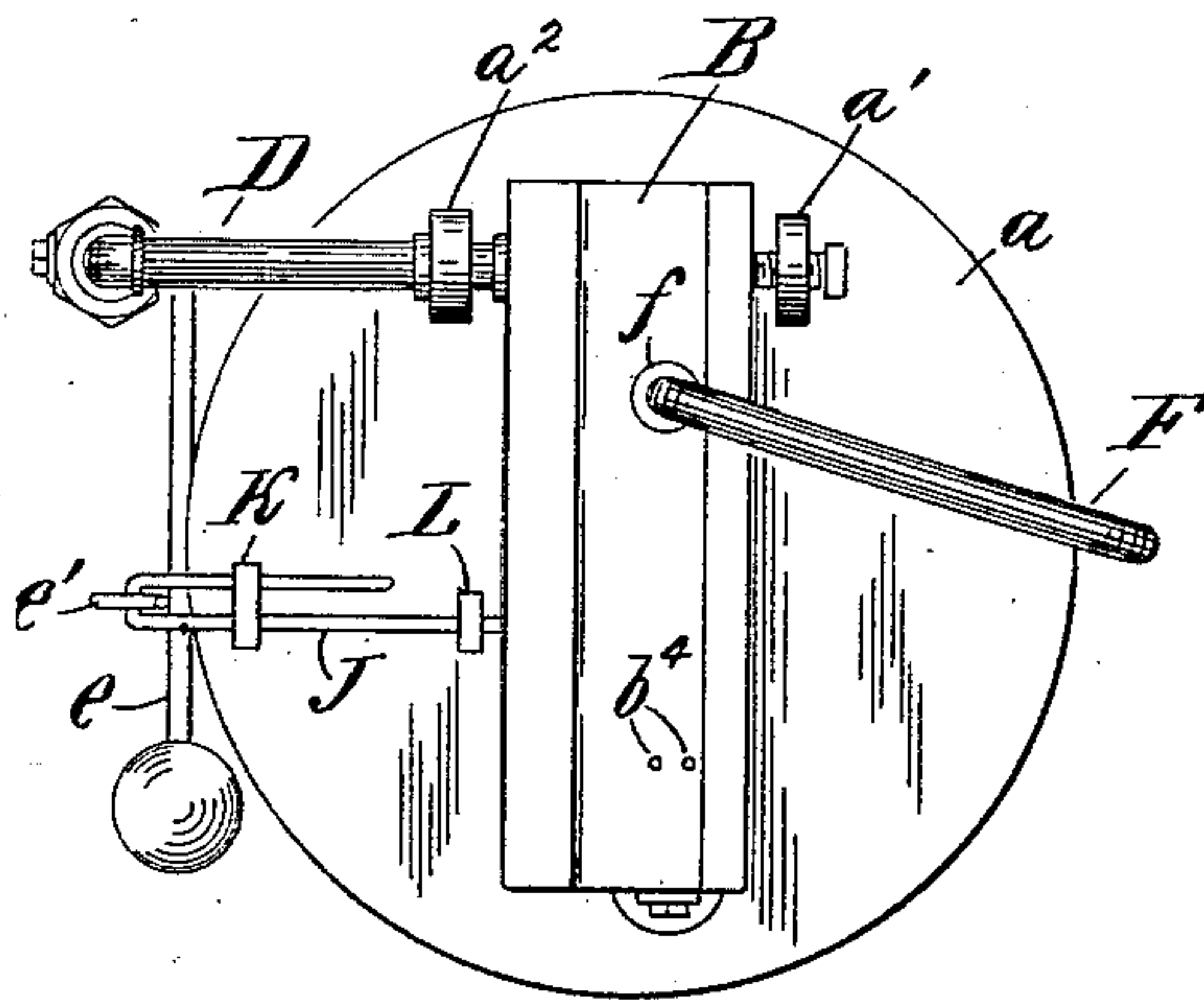


Fig. IV

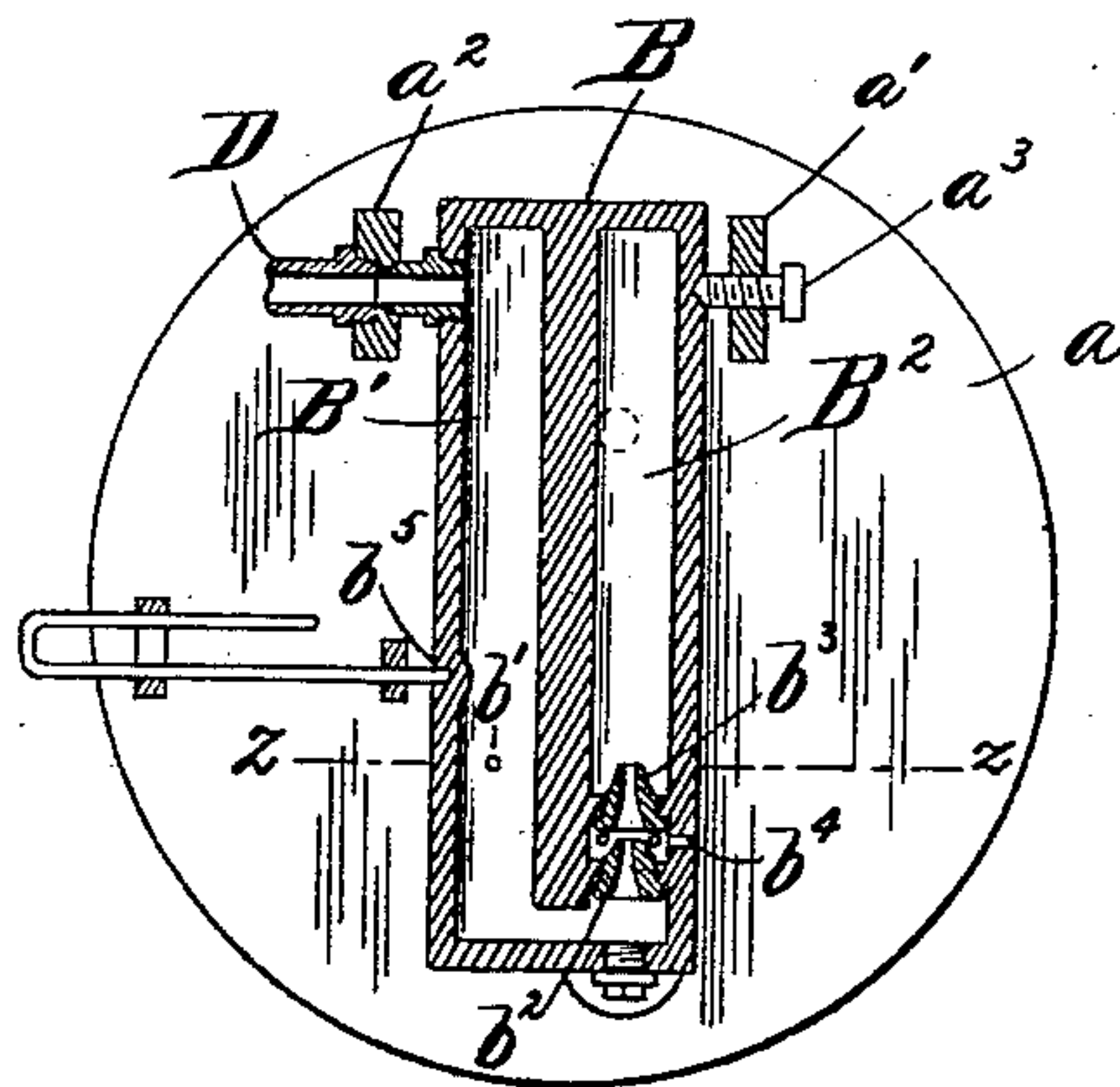


Fig. V

Witnesses:

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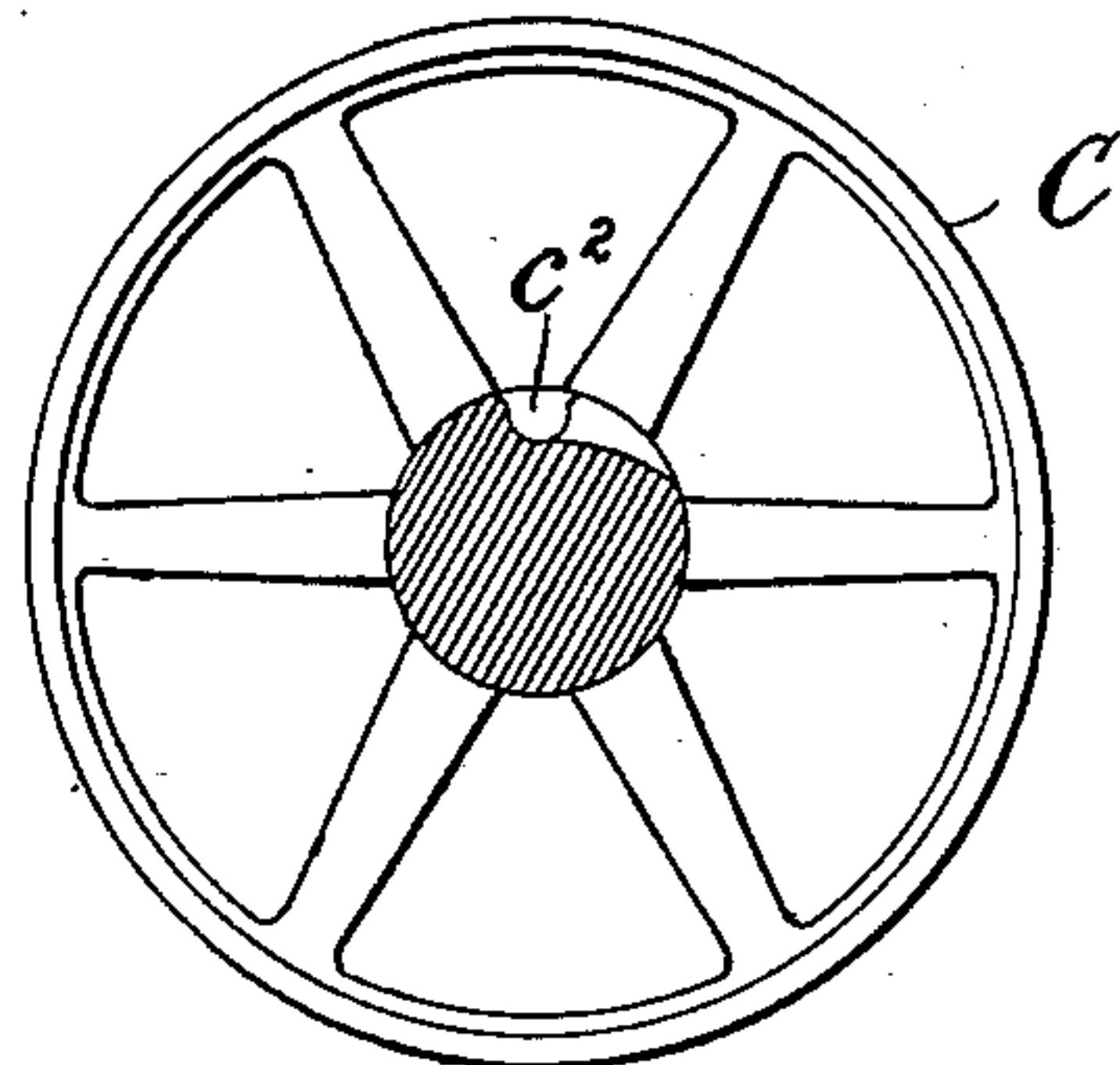
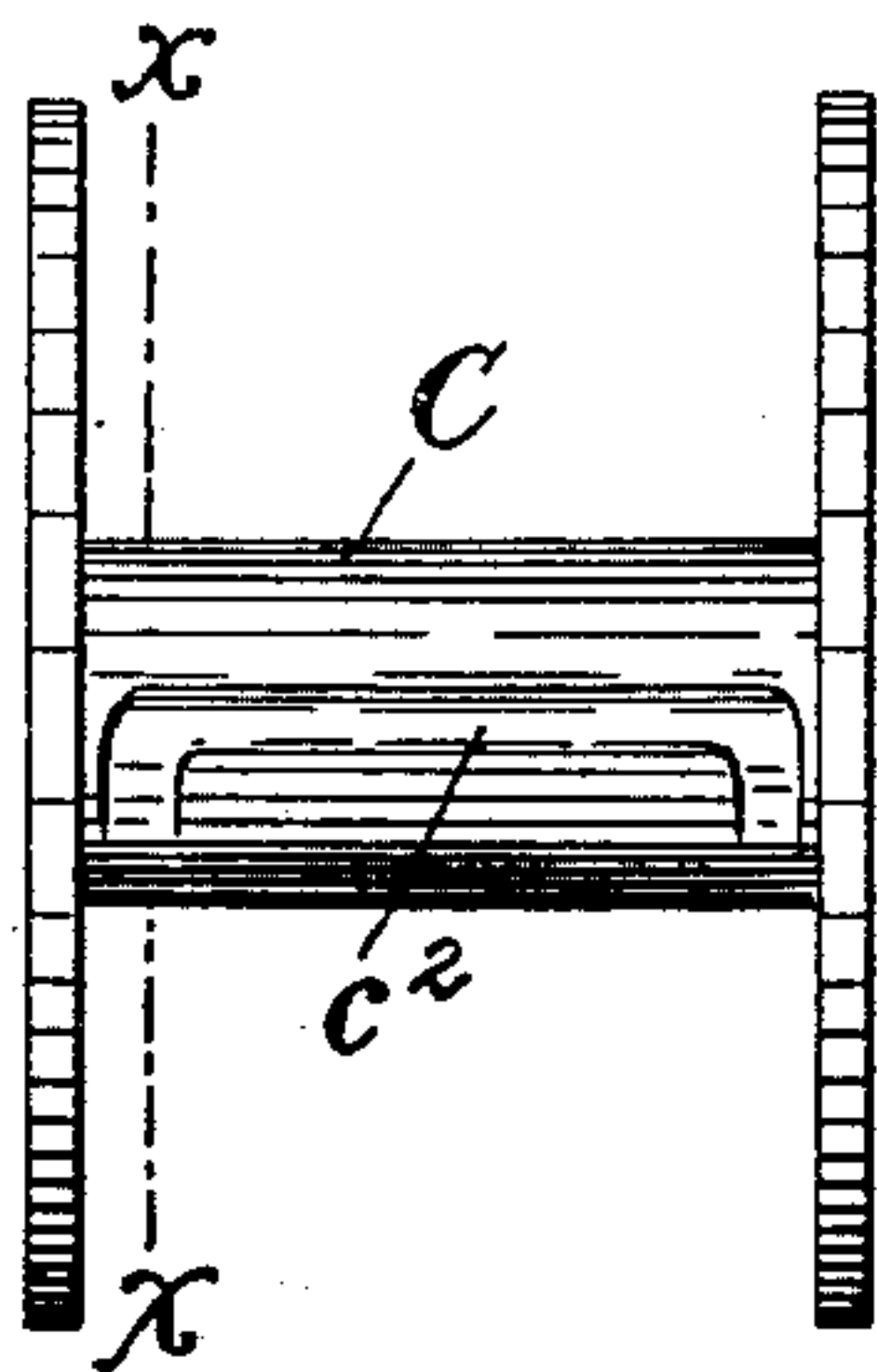
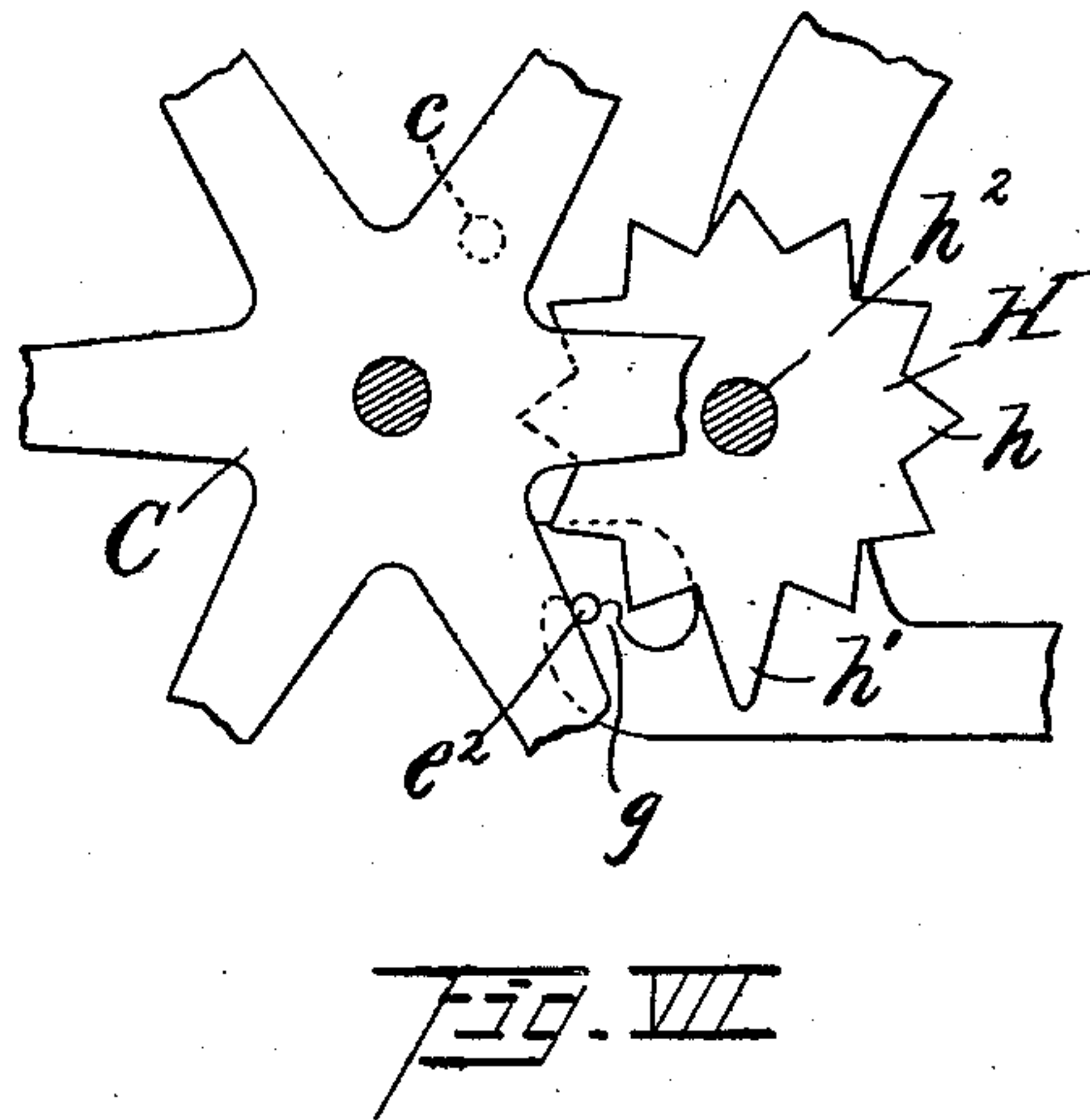
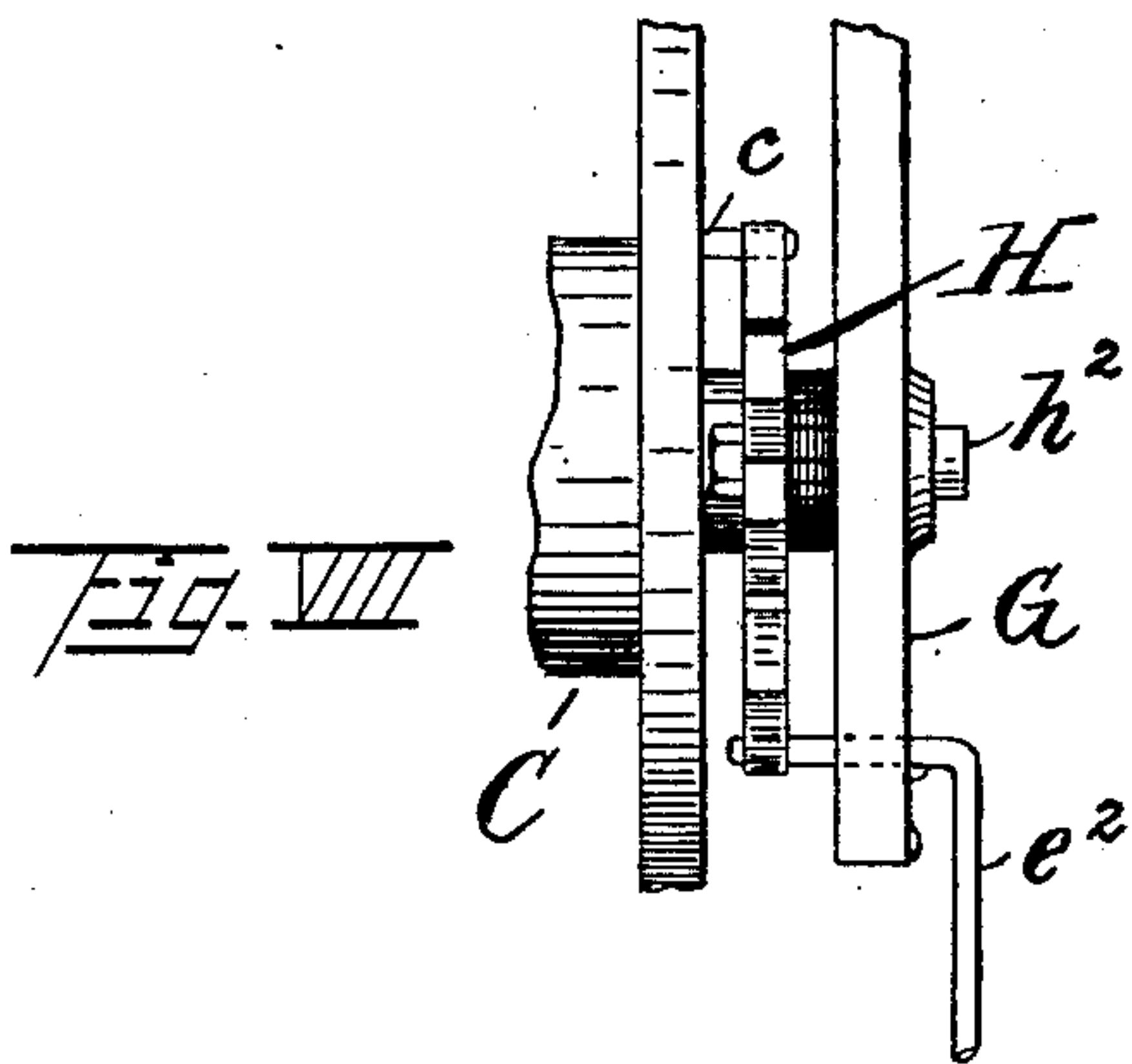
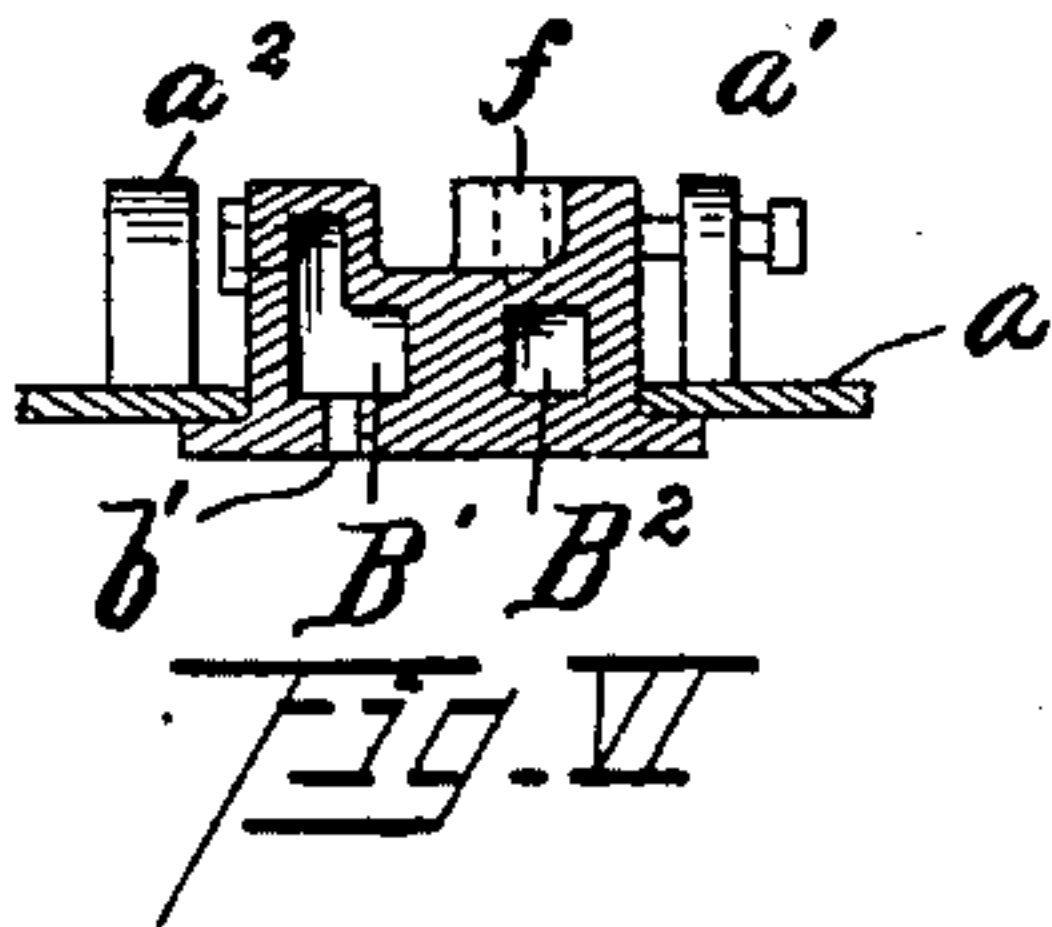
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3 Sheets—Sheet 3.



Witnesses:

H. F. Dierwold
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UNITED STATES PATENT OFFICE.

JOHN M. MARTY, OF CLEVELAND, OHIO.

CHEMICAL FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 677,138, dated June 25, 1901.

Application filed April 30, 1900. Serial No. 14,875. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. MARTY, a citizen of the United States, residing in the city of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Chemical Fire-Extinguishers; and I 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 relates to that class of fire-extinguishing apparatus in which a solution of chemical salts is combined with the water to increase its efficiency in extinguishing fires.

One object of my invention is to provide a fire-extinguishing apparatus whereby a continuous stream of water can be charged with a solution of chemical salts from an open tank and thrown or directed upon a fire.

A further object is to construct the apparatus in such manner that it may be brought into immediate use and not be subject to corrosion or to the difficulties usually encountered in that class of fire-extinguishers, due to the creeping or crawling of the salts.

My apparatus consists of a device for combining the water and the solution and which is mounted in the upper end of a tank containing the solution, a hose-reel for storing and paying out the hose, and means for automatically starting the charging device into action when the hose shall have been paid out to the desired length. The tank is preferably mounted on brackets fastened to a wall or post. These brackets also serve to support the reel, which is mounted under the tank. In the top of the tank the charging device is pivoted in such manner that it may be lowered into or raised out of the contents of the tank. When the charging device is in use, it is submerged in the contents of the tank, but when not in use it is raised to the top of the tank and out of contact with the solution, thereby preventing the deposits of salts from clogging or filling up the tubes and perforations and rendering it inoperative. This charging device is automatically lowered into the contents of the tank by a weighted lever operating a valve in the water-inlet pipe. As the lever is dropped it simultaneously opens the inlet-valve and lowers the charging device

into the tank. The lever is set in motion by a tripping device, which is set so as to release the weighted lever when the desired amount of hose has been paid out.

In the accompanying drawings, Figure 1 is a side elevation of my improved apparatus, showing the hose wound on the reel and the charging device raised to the top of the tank. Fig. 2 is a front view of the same. Fig. 3 is a front elevation showing the hose unreeled and the charger lowered into the tank. Fig. 4 is a plan view showing top of the tank and the charging device. Fig. 5 is a sectional view of the charger and the means for supporting it in the top of the tank. Fig. 6 is a sectional view on line $z z$, Fig. 5. Figs. 7 and 8 are enlarged detail views of the tripping device. Fig. 9 is a plan view of the reel; and Fig. 10 is a sectional view on line $x x$, Fig. 9.

A is a tank for containing the solution.

G G' are brackets fastened to a wall or post and supporting the tank.

B is the charging device, one end of which is pivotally mounted between the lugs $a' a^2$ of the tank-cover a .

C is a reel, also supported by the brackets G G'.

E is a stop-cock in the water-supply pipe D. e is a lever weighted so as to automatically open the stop-cock E.

e^2 is a rod for suspending the weighted lever e , its upper end being engaged or supported by the projection g on the bracket G.

e' is a rod extending upwardly from the lever e and passing through the outer end of the rod J on top of the tank-cover. The rod J passes through the lugs K L, and its inner end is adapted to engage the casing of the charging device, as shown at b^5 in Fig. 5. By withdrawing the rod J from the hole b^5 the casing swings downward into the tank and is submerged in the solution.

H is a star-wheel having projections $h h'$, and is supported on the inner side of the bracket G by the pin h^2 , on which it revolves. The pin c in the arm of the reel C is adapted to engage the projections h on the star-wheel H, the projection h' being of sufficient length to dislodge the rod e^2 from the lug g .

The reel is so constructed that the hose may remain connected to the source of water-supply while it is wound upon the reel or is

being paid out without being folded or kinked in such manner as to injure the hose or to obstruct the free passage of water at all times. As shown in Figs. 9 and 10, a groove c^2 is made lengthwise in the cylindrical part of the reel. The middle portion of the hose is placed in this groove, as shown in Fig. 3, and is held in place as the hose is wound over it, the turns at the end of the groove being long enough to prevent kinking. The groove c^2 may be made long enough to receive only a bight or turn of the hose, the hose being in that case wound from the center outwardly, as shown in Fig. 2.

The device I use for the purpose of charging the water with a solution of chemicals is shown in Fig. 5. The water enters through the pipe D into the channel B' and through the forcing-tube b^2 and the combining-tube b^3 into the channel B^2 and into the hose at f . As the water passes through the space between the tubes b^2 b^3 it becomes impregnated with the chemical solution drawn in through the openings b^4 and combining with the water in the tube b^3 .

When the apparatus is in position and ready for use, the tank is filled with the suitable solution and the charging device is raised to the top of the tank and held in position by the rod J. The lever e is raised, as shown in Figs. 1 and 2, closing the stop-cock E. The upper end of the rod e^2 is placed in the depression in the lug g , and the rod e is in the position shown in Figs. 1 and 2.

As the operator unreels the hose the pin c revolves the wheel H until the projection h' forces the rod e^2 off the lug g , lowering the weighted lever e and opening the stop-cock E. The head of the rod e' forces the rod J outwardly and away from the charging device, which is thereby released and lowered into the solution. The water enters through the pipe D and passes through the tubes b^2 and b^3 and into the hose F. The opening b' is made of such size that the water escaping through it keeps the tank supplied, and as

the supply of salts may be renewed through the opening in the cover the device can be used without interruption for an indefinite length of time.

Having described my invention, I claim—

1. In a chemical fire-extinguisher, the combination with a tank of a charging device having suitable supply and discharge connections and mounted on said tank, and means for simultaneously turning on the water-supply and lowering the charging device into the tank, substantially as set forth.

2. In a chemical fire-extinguisher, the combination with a tank of a charging device having suitable supply and discharge connections and mounted on said tank, a reel for the hose and means for simultaneously turning on the water-supply and lowering the charging device into the tank when the hose has been paid out to the desired length, substantially as set forth.

3. In a chemical fire-extinguisher, the combination with the tank A of the charging device B, the cock E, weighted lever e , the rods e^2 and e' , the rod J and means for dislodging the rod e^2 from the lug g , thereby dropping the weighted lever e , opening the cock E and through the rods e^2 and J lowering the charging device B into the tank, substantially as set forth.

4. In a chemical fire-extinguisher, the combination with the tank A of the charging device B, the reel C, the cock E with its weighted lever e , the rod e^2 supporting the lever e , the star-wheel H adapted to dislodge the rod e^2 , and the rods e' and J for lowering the charging device into the tank as the lowering of the lever e opens the cock E and admits water to the charging device and tank, substantially as and for the purposes specified.

Signed by me this 26th day of April, 1900.

JOHN M. MARTY.

In presence of—

JULIUS F. BUCHMAN,
W. C. SUNDERLAND.