

No. 789,575.

PATENTED MAY 9, 1905.

A. G. STEVENS.
CHEMICAL MIXER FOR FIRE EXTINGUISHING DEVICES.
APPLICATION FILED JUNE 15, 1904.

Fig. 1.

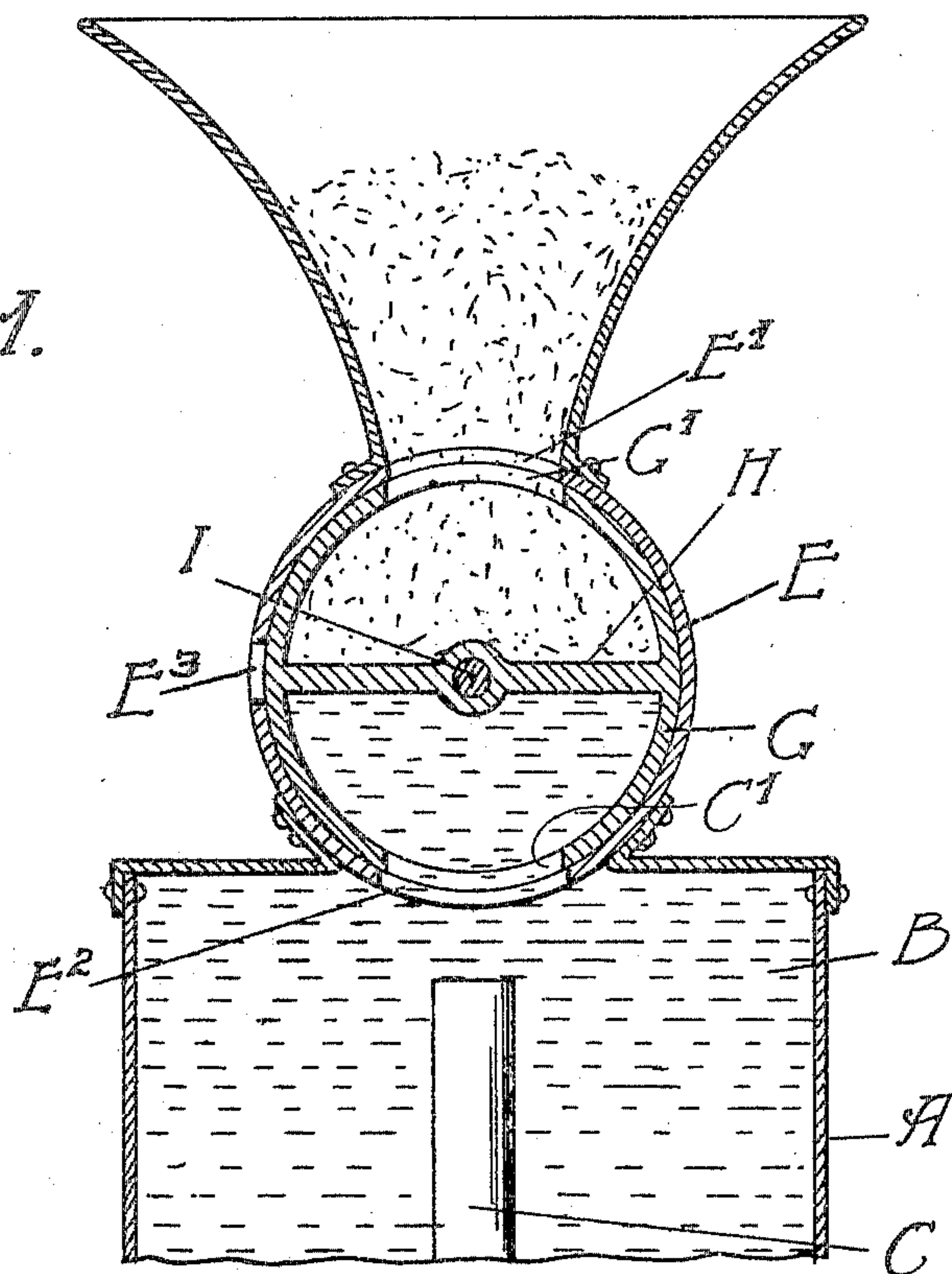
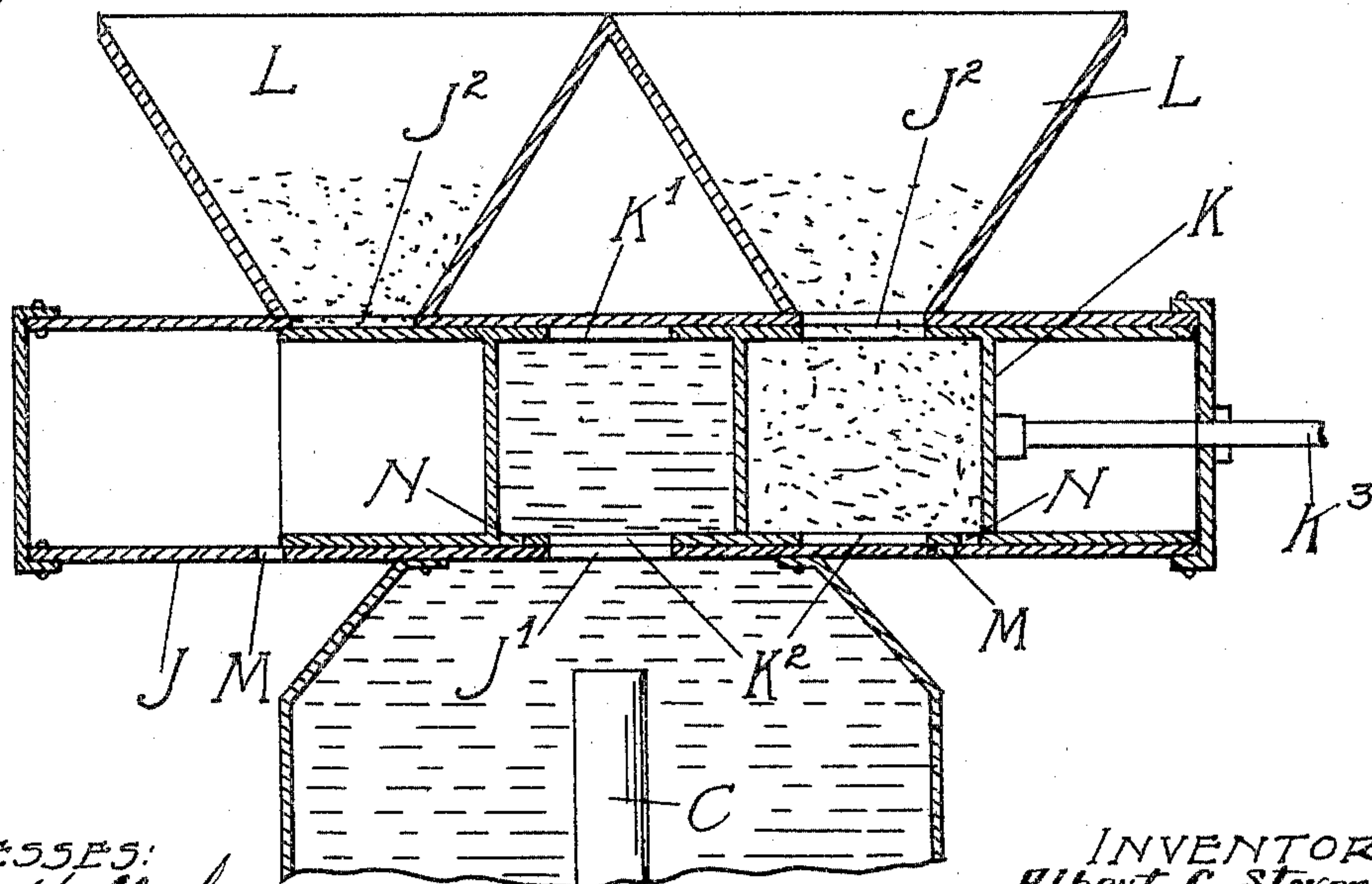


Fig. 2.



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CHEMICAL-MIXER FOR FIRE-EXTINGUISHING DEVICES.

SPECIFICATION forming part of Letters Patent No. 789,575, dated May 9, 1905.

Application filed June 15, 1904. Serial No. 212,655.

To all whom it may concern:

Be it known that I, ALBERT G. STEVENS, a citizen of the United States, residing at Cape May, county of Cape May, and State of New Jersey, have invented a certain new and useful Improvement in Chemical-Mixers for Fire-Extinguishing Devices, of which the following is a specification.

My invention relates to a new and useful improvement in a chemical-mixer for fire-extinguishing devices, and has for its object to improve upon a patent for chemical-mixer granted to me December 29, 1903, No. 748,319, and application filed by me for chemical-mixer February 4, 1904, Serial No. 192,056. In both of these inventions referred to it will be seen that it is necessary to have a tank and mixing chambers in order to keep up a continuous flow of chemical water, and it is necessary to have a cover which must be hermetically sealed and must be opened and closed each time the chemical is inserted.

The object of this application is to provide an automatic-feeding arrangement for the chemical, by which the chemical can be continuously fed to the reservoir without interrupting the flow of the water.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section through one form of my improved device, showing a portion of the reservoir to which it is attached; Fig. 2, a vertical section through another form of my device, showing a portion of the reservoir.

A represents the reservoir into which the inlet-pipe C leads, a suitable outlet-pipe being provided leading to the hose.

E is a cylinder mounted upon the top of the reservoir, and this cylinder has an opening E'

at its upper end, over which a hopper F is located adapted to be kept full of chemical.

E² is an opening formed through the lower side of the cylinder E, connecting with the reservoir A.

G is a cylinder adapted to fit snugly inside of the cylinder E and revolve therein in a water-tight connection. This cylinder is divided through the center by a partition H, through which the shaft I extends for the turning of the cylinder. This cylinder may be rotated by a wheel, crank, or any power desired.

G' represents openings formed through opposite sides of the cylinder, one connecting with each compartment formed by the partition H, and thus it will be seen that when the device is in the position shown in Fig. 1 the chemical contained in the hopper F will flow downward through the openings E' and G' into the upper compartment of the cylinder G, and as the lower opening G' of the cylinder G is in alinement with the opening E² of the cylinder E the water is free to circulate within the lower chamber of the cylinder G. Then by turning the cylinder G the chemical contained in the upper chamber will be carried around by the cylinder, and when the opening G' and opening E² are again brought in register the chemical will drop out of the cylinder or be washed out by the flow of water, and the water within the reservoir will be recharged with chemical, and then the other portion of the cylinder G will be automatically filled, and so a continuous feeding of the reservoir can be kept up for an indefinite length of time, it only being necessary to keep the hopper F full of chemical and keep turning the cylinder.

It will be noticed that when the cylinder G is revolved the lower portion of said cylinder being full of water said water will be carried by, and as it is desirable to have very little water in the upper chamber when the chemical flows in I have provided means for drawing off water by providing an opening E³, formed through the side of the cylinder E, so that the water will flow through said opening as the cylinder is making its revolution.

In Fig. 2 I have shown means for accomplishing the automatic feeding of the reservoir by means of a reciprocating movement instead of a rotary movement. In this form of device I provide a cylinder J, in which is adapted to work the piston K. This piston K is divided by a central partition into two compartments and each compartment has openings K' opening through the upper side of the piston and openings K² opening through the lower side of the piston. J' is an opening formed through the lower side of the cylinder J and with which the openings K² of the two compartments of the piston are adapted to be brought alternately in register. J² represents two openings formed through the upper side of the cylinder, and over these openings are arranged the hoppers L, adapted to contain the supply of chemical. As the piston K is reciprocated by means of the rod K³ the opening K' of one of the compartments of the piston is adapted to register with one of the openings K² of the cylinder, and as the piston is moved in the opposite direction the opening K' of the other compartment of the piston is adapted to register with the other opening J² of the cylinder, and at the terminus of each stroke of the piston the lower opening of one compartment is in register with the opening J' through the cylinder J, opening into the reservoir A. Thus one compartment of the piston is always receiving a supply of chemical while the other compartment is discharging its chemical into the reservoir. In order to empty the compartment of water which is to be charged with chemical, I provide through the lower side of the cylinder J the small openings M, which are

adapted to be brought into register with opening N, formed through the piston before the stroke of the piston has been finished in each direction.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

In a device of the character described, a reservoir through which water is adapted to flow continuously, a hopper or chute by which the chemical is supplied, a feeding arrangement interposed between the hopper and the reservoir, said feeding arrangement consisting of a movable portion divided into two compartments, a shell surrounding the movable portion, said shell provided with openings communicating with the hopper and with a reservoir, the movable portion provided with two openings extending through its sides, one opening communicating with each compartment, said movable portion adapted to be moved so that the openings communicating with its two compartments will alternately be brought in register with the openings formed through the shell, and means for draining the discharged compartment of the movable portion while it is traveling to its position to receive a new charge of chemical.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

ALBERT G. STEVENS.

Witnesses:

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