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Complete Specification Left, 3rd Jan., 1912—Accepted, 30th May, 1912

PROVISIONAL SPECIFICATION.

Improvements in Self-driving Machines and Plant.

I, JOHN HENRY LAMB PERRESS, Electrician, 11, Belmont Road, Portswood, Southampton, do hereby declare the nature of this invention to be as follows, with the aid of the accompanying drawing:—

A cylindrical tank A enclosed at its upper end is suspended in the tank B as shown in Figure 1. Liquid out of the tank B will flow down the pipe C, and drive the turbine, and the exhaust liquid from the turbine will flow into the tank T, and then be conveyed up the pipes D (only one pipe shown in figure) by the atmospheric pressure into the top of the tank A again. Thus as fast as liquid is falling and doing useful work liquid is being raised again, without the aid of the turbine it has just driven, or of any other mechanical contrivance. The explanation is as follows. Let water be the liquid used. Now it is already known that the height at which a column of water is held by the atmospheric pressure in a tube enclosed at the top end is theoretically thirty-four feet. But practically this height decreases as the diameter of the tube increases. Thus in the figure, the height of the column of water held by the atmospheric pressure in the cylindrical tank (or tube) A, is h_1 feet, whilst that in the tube D is h_2 feet. Now the space between the top of the tube A, and the level of water in the tube A is a vacuum. But the atmospheric pressure will support a column of water in a tube of small bore a height of thirty-four feet. Therefore so long as the pipe D is less than H_2 (i.e. 34 feet) in height, water will be syphoned up into the top of the tube (or tank) A. Of course a number of tubes D must be used, so that there is as much water passing up into the tank A, as there is passing down the pipe E. Therefore by this arrangement a turbine could be made to do useful work, without cost save for depreciation. The same results could be obtained by having the tube A very high, by covering the top of the tank B, and by placing a pressure greater than that of the atmosphere upon the surface of the water in the tank B. This water under pressure would drive a water motor and the exhaust water would be syphoned up into the top of the tank A again, in the same way as in the machine described above.

Dated the 17th day of October, 1911.

JOHN HENRY LAMB PERRESS.

COMPLETE SPECIFICATION.

Improvements in Self-driving Machines and Plant.

I, JOHN HENRY LAMB PERRESS, of 11, Belmont Road, Portswood, Southampton, in the County of Hants, Electrician, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in self-driving machines and plant. It has heretofore been proposed to provide self-actuating apparatus in which

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a water wheel is mounted over a tank, and the water after being utilized for driving the wheel is lifted from said tank above the wheel by pumps, hydraulic rams, or the like to be used again. It has also been proposed to provide similar apparatus with an open-topped tank above or at the side of the wheel and with syphon tubes so arranged that after the water from the upper tank has actuated the wheel and fallen into the lower tank it is lifted from the latter and discharged into the upper tank again by means of said wheel or syphon tubes. 5

The object of the present invention is the provision of a self-driving apparatus of improved and simplified construction in which a tank or tube closed at its top end is supported within an outer tank at a slight distance from the bottom of the latter. The outer tank is connected, in one construction by a down pipe to a water motor, and the water falls down said pipe, through the motor, actuating the latter and through a flume into a well, from which it is lifted to the upper closed end of the inner tank by means of one or more syphon tubes without the aid of the wheel or other pumping or lifting contrivance. 10 15

In another construction the water motor is arranged within the outer tank and the water, after actuating the said motor, is returned to the top end of the inner closed tank by one or more syphon tubes connected with the exhaust or outlet of the motor.

The invention is hereinafter described with reference to the accompanying drawings in which:— 20

Figure 1 is a diagrammatic sectional elevation of one arrangement; and

Figure 2 is a similar view illustrating a modification thereof.

As shown in Figure 1 I provide a cylindrical or other shaped tank or tube *a* which is closed at its top and open at the bottom and suitably supported by means such as the brackets *a*¹ within an outer tank or well *b*, at a slight distance from its bottom. Below the two tanks *a* and *b* I also provide another tank or well *c* into which the liquid or water from the upper tanks falls by means of the down pipe *d*, motor *e* and flume *f*. The liquid in falling will drive the said turbine *e* and the exhaust liquid from the turbine will flow through the flume *f* into the tank *c*. In order to return the waste water back to the tanks *a* and *b* I provide a series of small pipes *g* only one of which is shown in the drawing which by atmospheric pressure return it again to the top of the tank *a*. Thus as fast as liquid is falling and doing useful work it is being raised again without the aid of the turbine it has just driven or of any other mechanical contrivance. This action is based on the fact that the height at which a column of water can be held by the atmospheric pressure in a tube enclosed at the top end is theoretically thirty four feet. But practically this height decreases as the diameter of the tube increases. Thus supposing as in the figure the height of the column of water held by the atmospheric pressure in the cylindrical tank or tube *a* is *h*¹ feet, whilst that in the tubes *g* is *h*² feet, and that the space between the top of the tank or tube *a* and the level of water in the tube *a* is a vacuum. The atmospheric pressure will support a column of water in a tube of small bore a height of thirty four feet and therefore so long as the pipes *g* are less than *h*² feet (*i.e.* 34 feet) in height, water will be syphoned up into the top of the tube (or tank) *a*. Of course a number of tubes *g* must be used so that there is as much water passing up into the tank *a* as there is passing down the pipe *d*. Therefore by this arrangement a turbine could be made to do useful work without cost save for depreciation. The same results could be obtained by having the tank *a* very high, by covering the top of the tank *b*, and by placing a pressure greater than that of the atmosphere upon the surface of the water in the tank *b*. This water under pressure would drive a water motor, and the exhaust water would be syphoned up into the top of the tank *a* again in the same way as in the previously described arrangement. 25 30 35 40 45 50

The arrangement shown in Figure 2 is substantially the same as that shown in Figure 1 with the exception that one large tube *g*¹ is substituted for the number of small tubes and the turbine is mounted directly in the side of the 55

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tank *b* without the intermediate down tube. This arrangement also enables the lower tank *c* to be dispensed with and therefore provides a more compact arrangement which would be more desirable under certain circumstances as will be readily appreciated.

5 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Self-driving apparatus or plant of the kind described comprising a closed-
topped inner storage tank, tube or reservoir supported within an outer tank
10 or well, and a turbine or other motor driven by the head of water circulating from said tanks and returning under atmospheric pressure to the top of the inner tank, substantially as described.

2. Self-driving apparatus or plant of the kind described comprising, an
inverted storage tank, tube, or reservoir supported within an outer tank or well,
15 a down pipe for conducting the liquid in the said tanks to a turbine or other motor, a well or tank for collecting the used liquid, and a plurality of tubes of relatively small diameter for ensuring the return of the liquid to the top of the inner tank under the pressure of the atmosphere, substantially as described.

3. The improved self-driving apparatus or plant substantially as described
20 with reference to Figure 1 of the drawings.

4. The improved self-driving apparatus or plant substantially as described with reference to Figure 2 of the drawings.

Dated this 3rd day of January, 1912.

25 J. S. WITHERS & SPOONER,
Chartered Patent Agents,
323, High Holborn, London,
Agents for the Applicant.

[This Drawing is a reproduction of the Original on a reduced scale.]

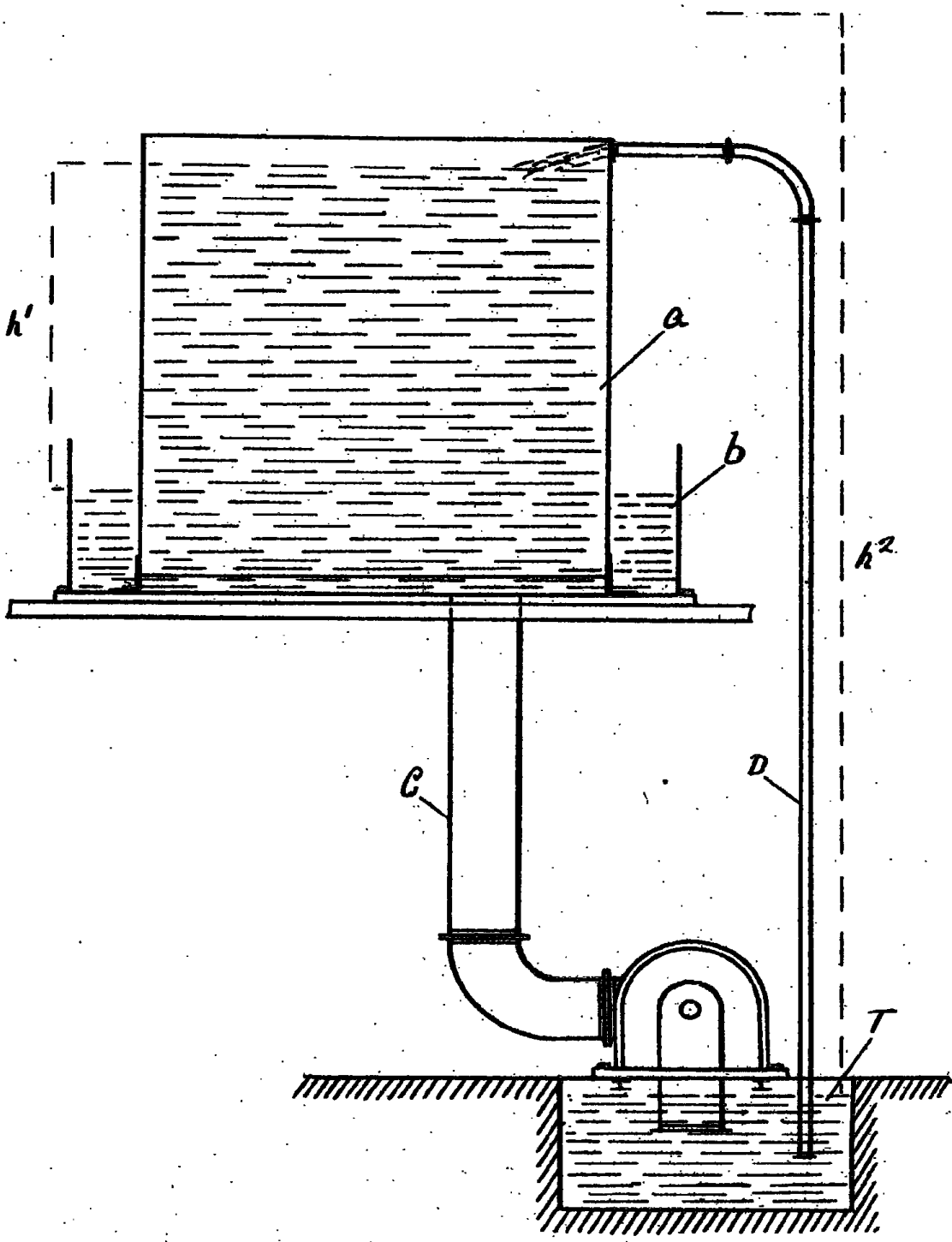


Fig 1

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Fig. 1.

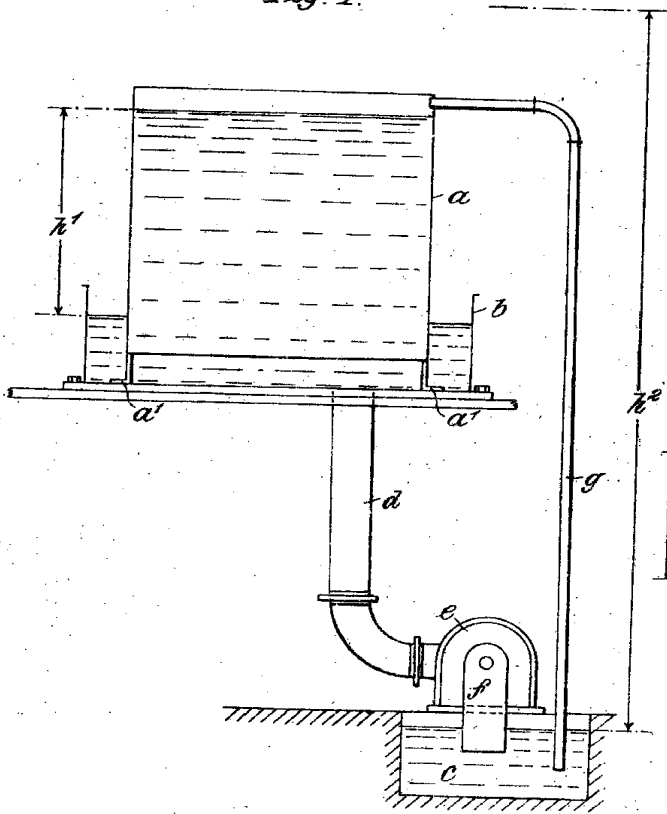
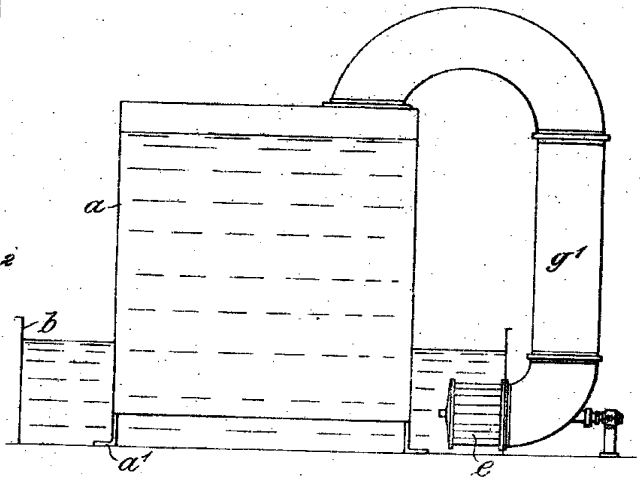


Fig. 2.

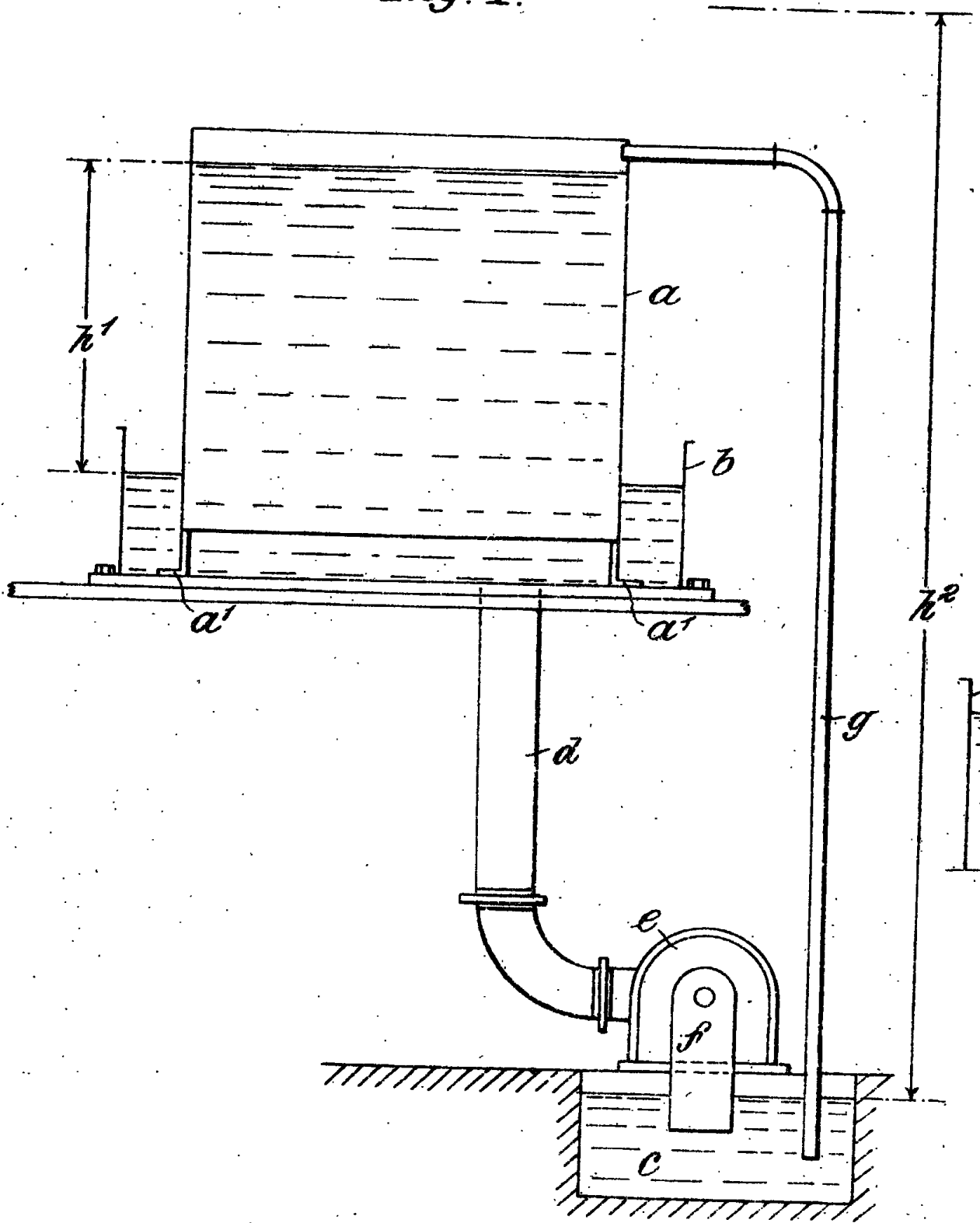


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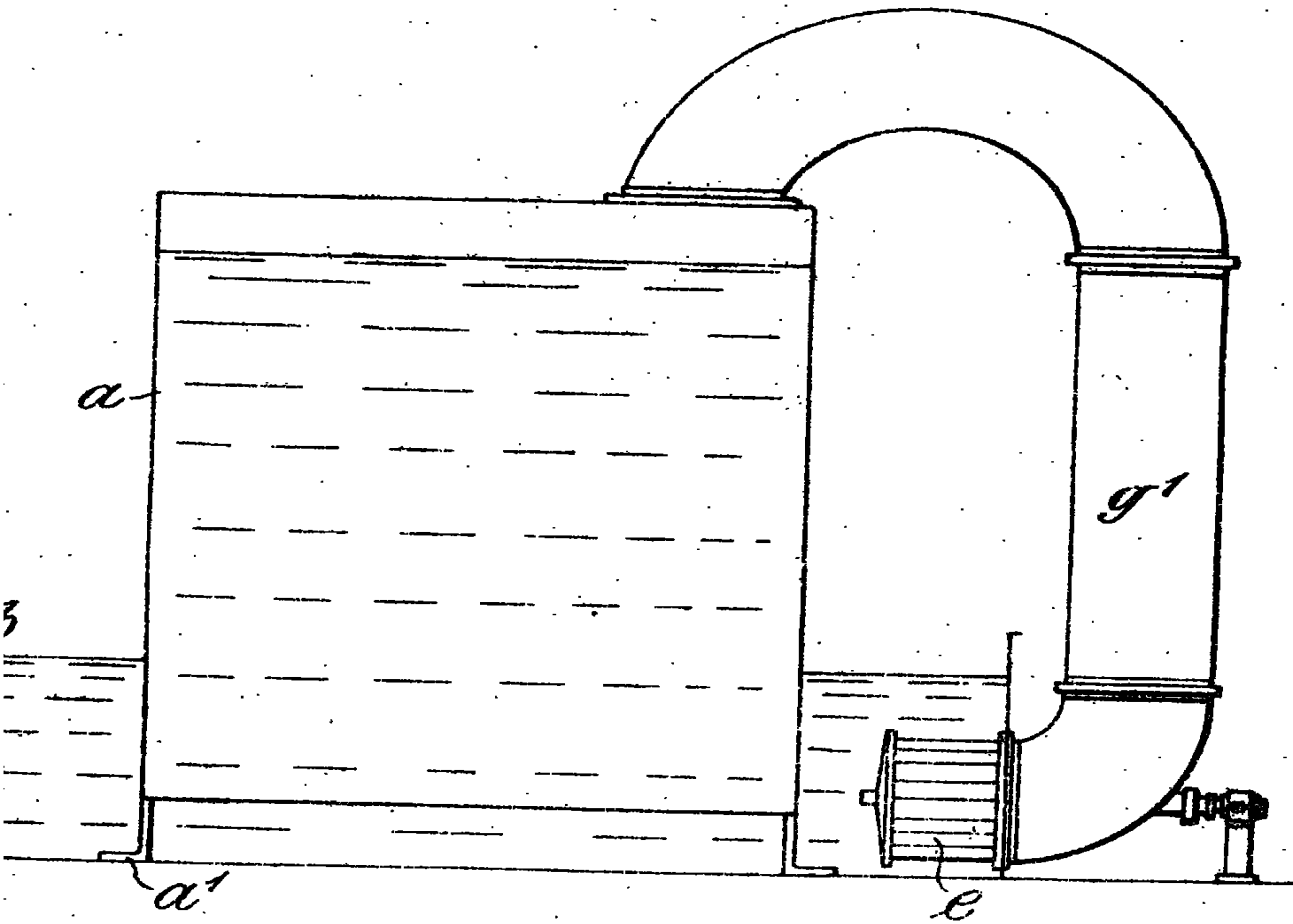
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Fig. 1.



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Fig. 2.



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