

No. 763,614.

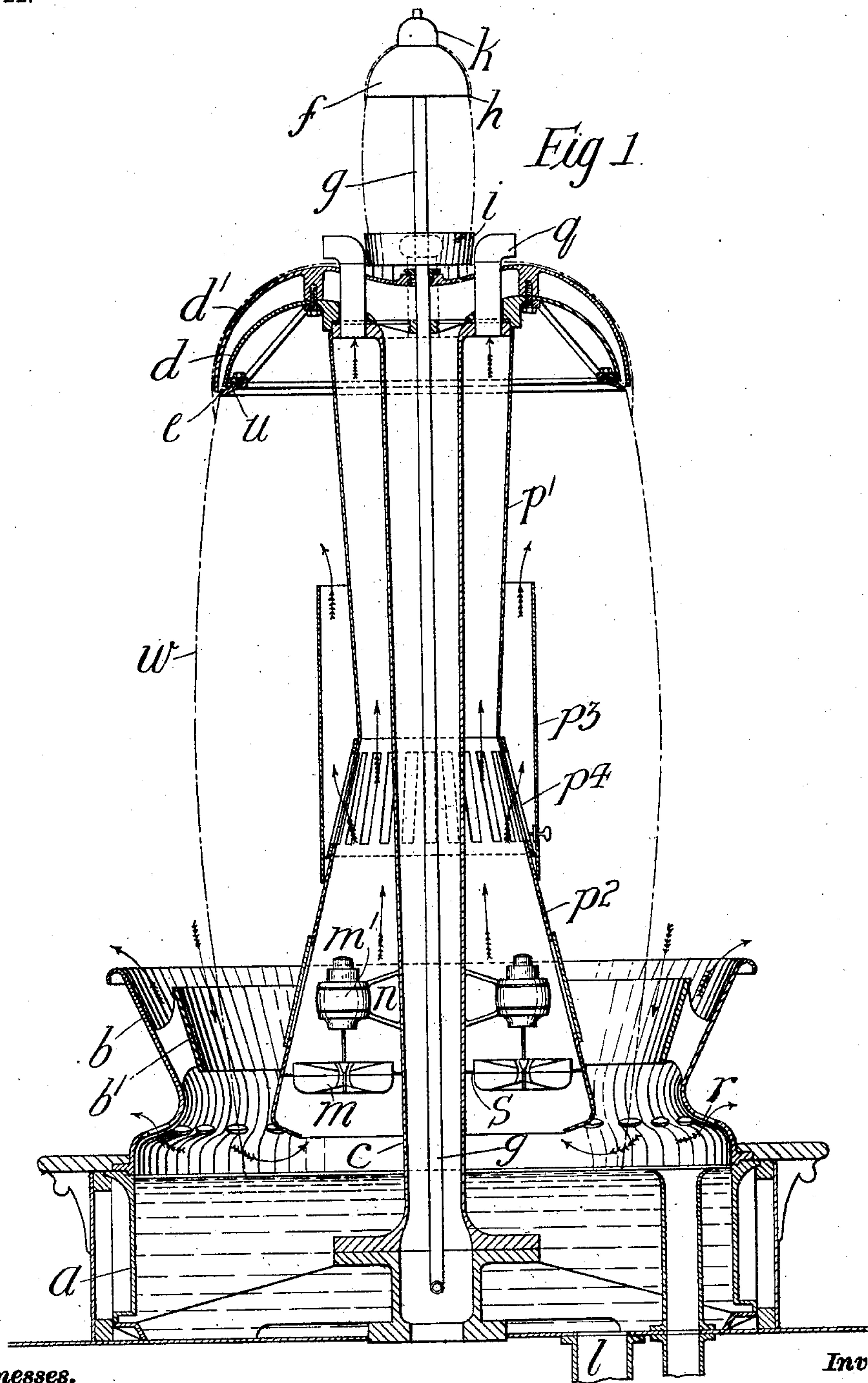
PATENTED JUNE 28, 1904.

J. KEITH.
ORNAMENTAL WATER FOUNTAIN.

APPLICATION FILED DEC. 9, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses.

C. Heymann.
A. Hall.

Inventor.

James Keith
by B. Singer
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3 SHEETS—SHEET 2.

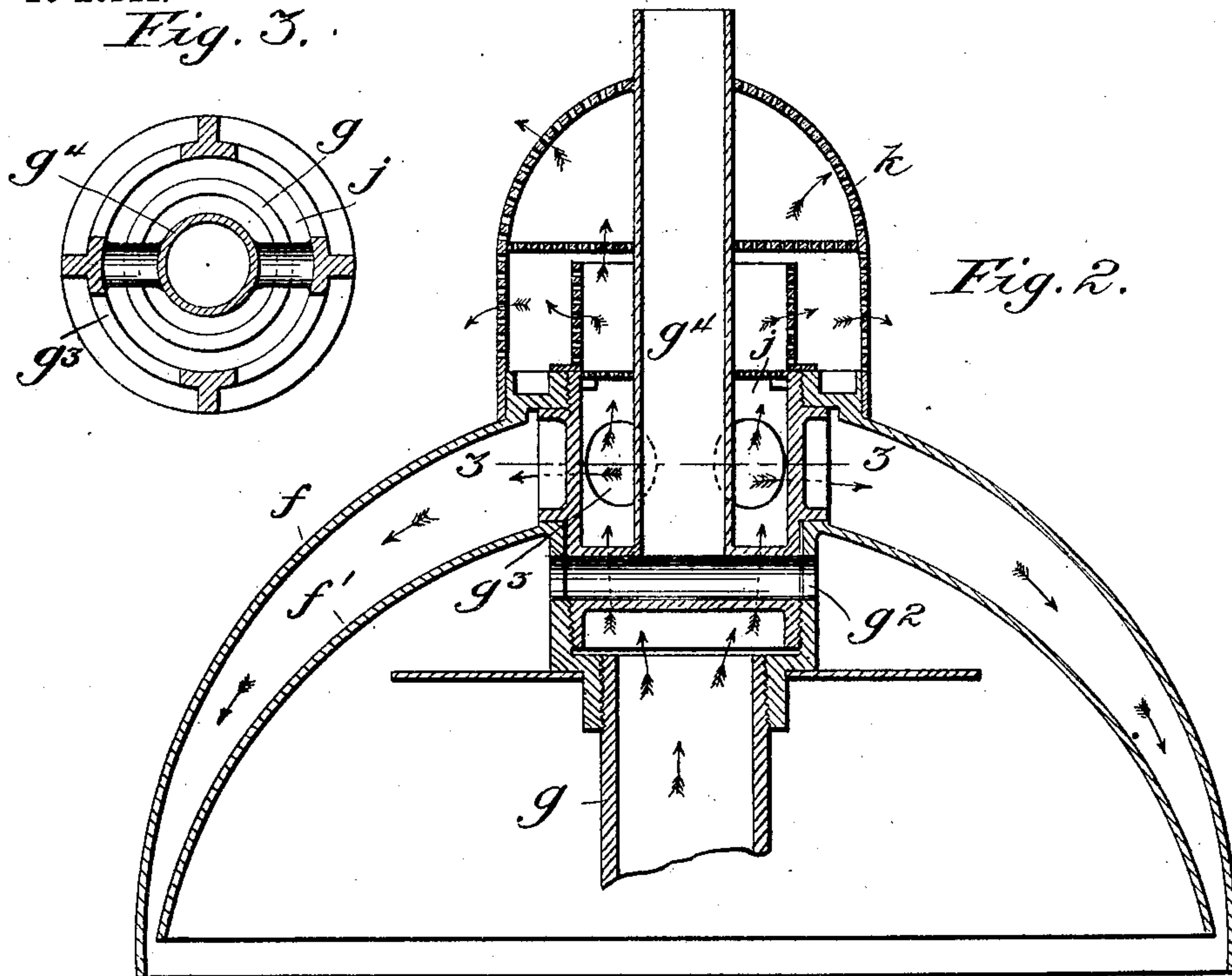
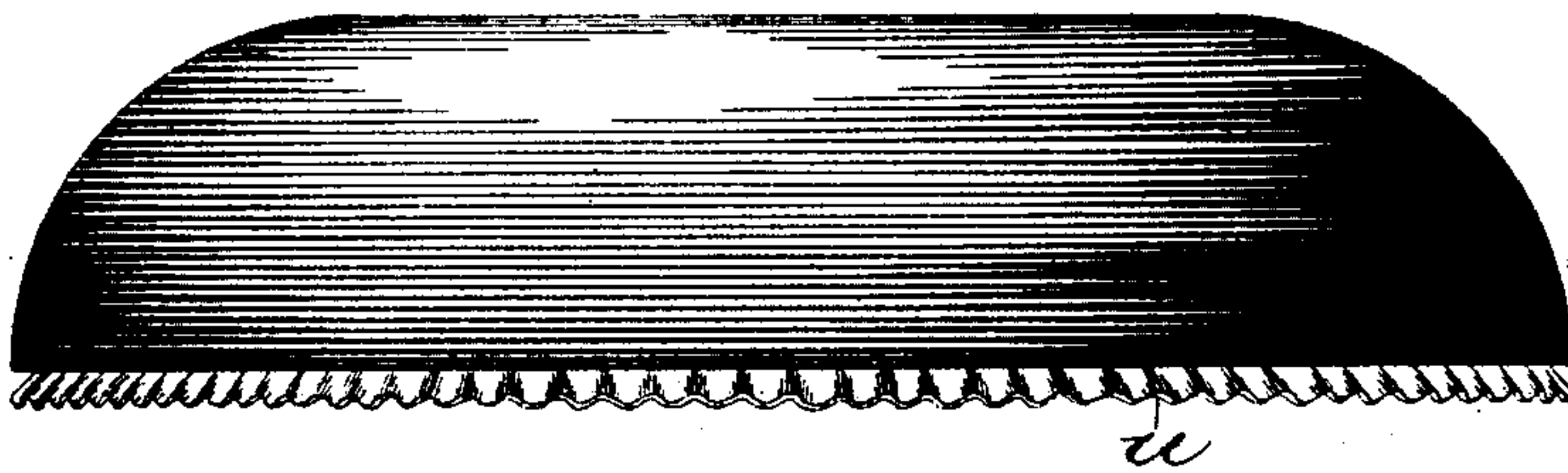


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 4.

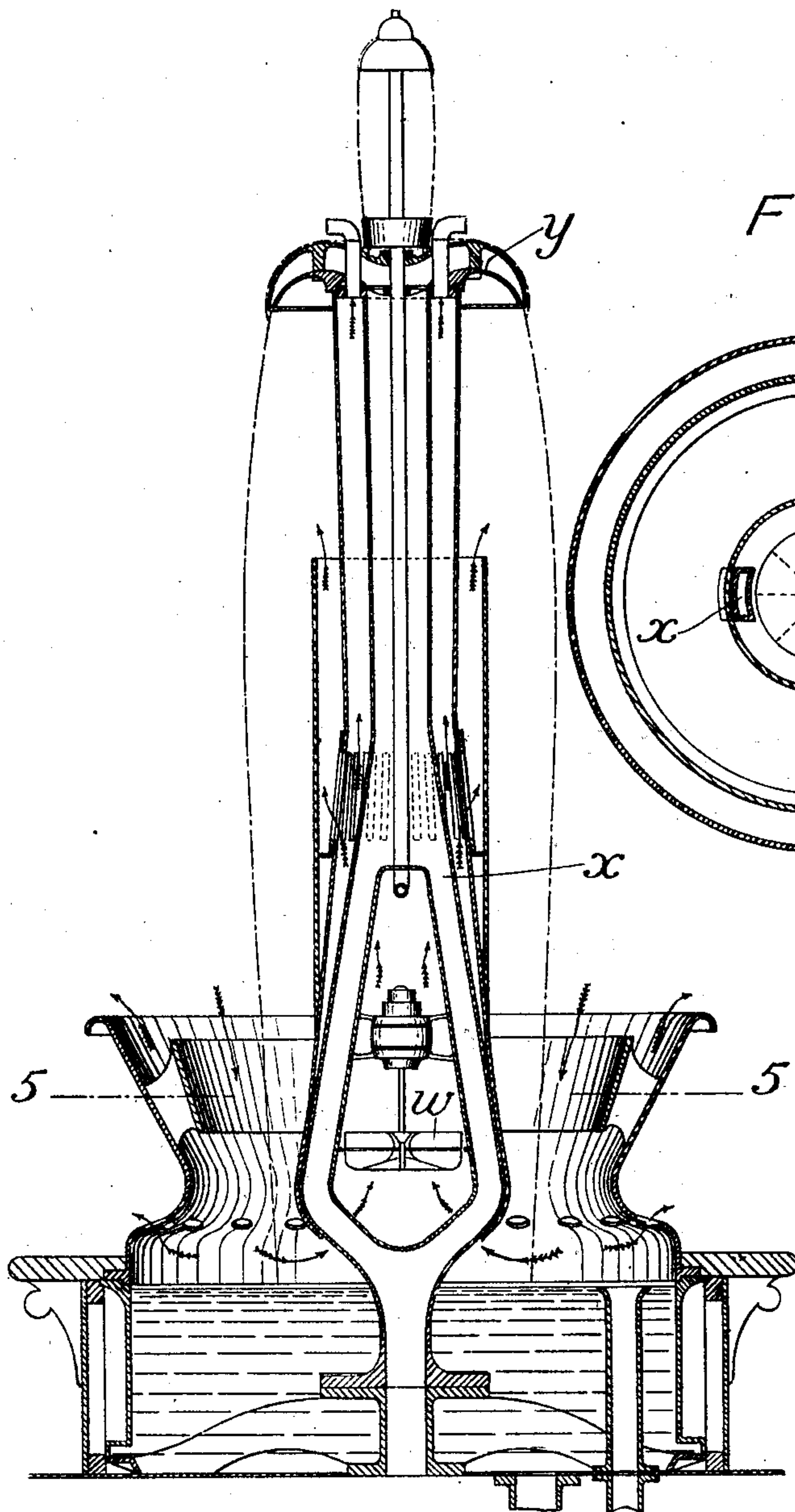
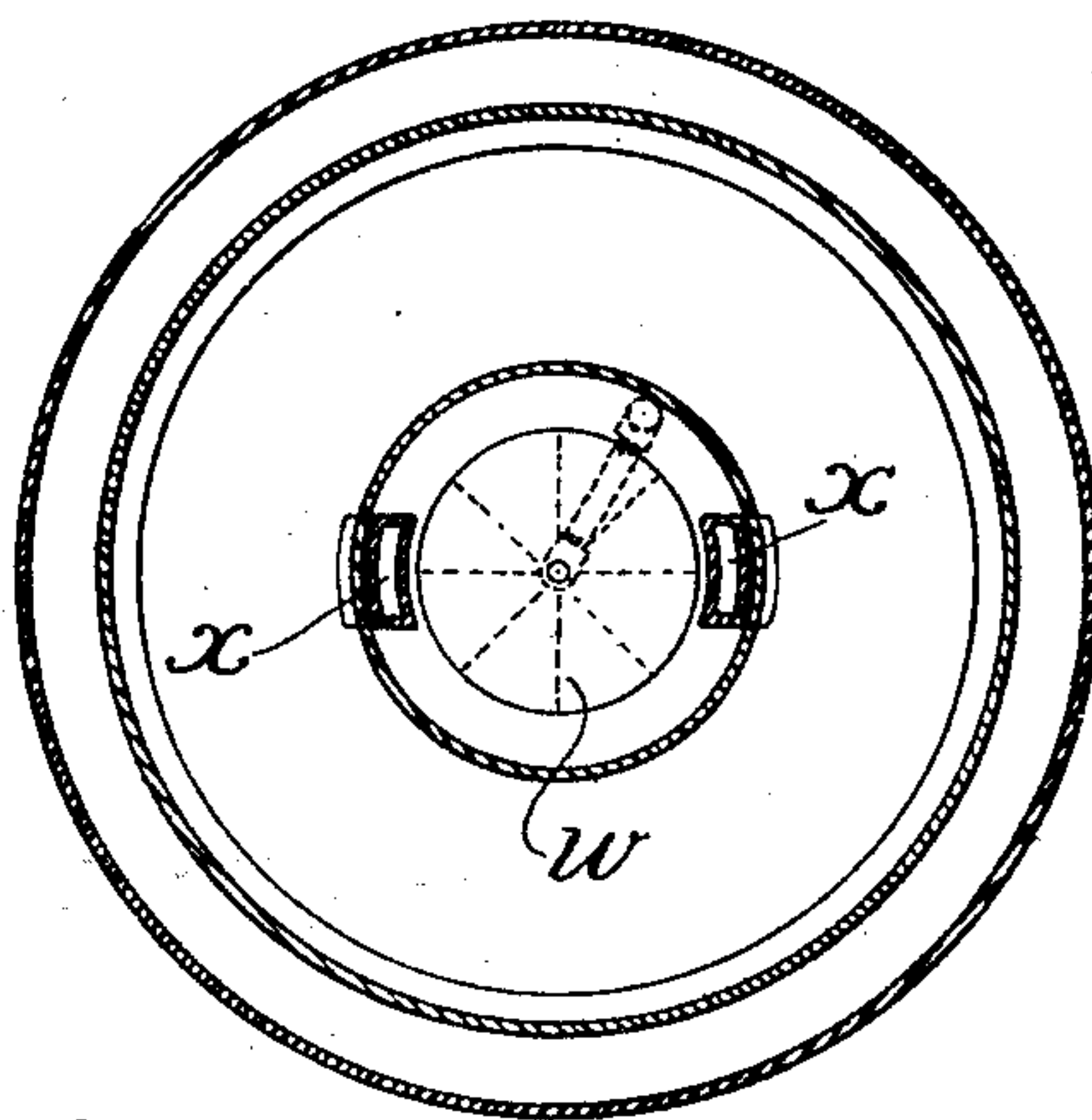


Fig. 5.



Witnesses.

C. Heymann.
A. Hall.

Inventor.

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UNITED STATES PATENT OFFICE.

JAMES KEITH, OF LONDON, ENGLAND.

ORNAMENTAL WATER-FOUNTAIN.

SPECIFICATION forming part of Letters Patent No. 763,614, dated June 28, 1904.

Application filed December 9, 1903. Serial No. 184,428. (No model.)

To all whom it may concern:

Be it known that I, JAMES KEITH, a subject of the King of the United Kingdom of Great Britain and Ireland, and a resident of 27 Far-
 5 ringdon avenue, London, England, have invented certain new and useful Improvements in Ornamental Water-Fountains, of which the following is a specification.

The ornamental water-fountain constituting
 10 this invention is designed for show and advertising purposes, for creating an artificial waterfall or head of water, or for placing in cafés, halls, and conservatories, and for cooling and washing or cleansing the surrounding
 15 air, and it is so constructed as to insure the discharge of water in a comparatively thin but unbroken annular stream inclosing electric lamps or gas-lights or like means for illuminating the flowing water and imparting to it
 20 a brilliant effect.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of the improved fountain. Fig. 2 is a vertical
 25 section of the upper part of the fountain to a larger scale, and Fig. 3 is a cross-section taken as at the line 3 3 in Fig. 2. Fig. 4 is a longitudinal vertical section; Fig. 5, a sectional plan through the line 5 5, Fig. 4, showing a modification; and Fig. 6 is an elevation
 30 of inner dome d , with scalloped ring u surrounding its edge.

As shown in Figs. 1 to 3, the fountain comprises a circular or other tank a , which is
 35 filled up with water and has over it a conical basin or basins b b' , opening at the bottom to the tank, one main outside basin b and one shallower inner basin or conical shelf b' being preferably employed and arranged concentrically, as shown, over the middle of the
 40 tank a . Centrally through the tank and basins is an upright pipe c , terminating in or fitted with an annular dome-like flange d , over the edge of which water drawn from the tank and
 45 forced up through the central pipe c is discharged in a thin annular stream. Over this domed flange is preferably fitted a covering dome-plate d' , which incloses the discharge-water and insures its delivery in a thin annu-
 50 lar stream e between the plates d d' of the

dome. In conjunction with this portion of the fountain a smaller fountain is arranged overhead supplied with water from a ram or pump discharging through a smaller central pipe g to and over a dome f above the main dome, 55 so as to produce a higher and secondary annular cascade at h , whose discharge-water falls onto the dome cover-plate d' or an open glass bowl i , fitted centrally over it, and flows in a thin stream over this plate d' to unite with 60 the main annular stream of the fountain at e . Water is or can be also discharged up through the top of this upper dome through an aperture j in the center and through and over another yet smaller domelet or projection k in order to 65 allow a portion of the water to flow over the outside or top of the covering dome-plate f' and unite with the main annular stream below. From the bottom of the tank a the water may be drawn out through a pipe l by a pump 70 placed beneath a basement and forced up the main central pipe c in large volume. This water is liberated between the two domes d d' at the top and is made to form an unbroken ring of water, preferably curving outwardly 75 like a barrel, as indicated by the dotted lines w , and flowing back into the tank a . When a ram is working in connection with the fountain, the delivery-water from the ram is delivered up the inside pipe g and flows by gravita- 80 tion over the upper domelet k and between the two upper domes f and f' and mixes with the water escaping between the main dome-plates d d' , the whole giving the appearance of a body of water flowing wholly over the top of 85 the domes k , f , and d' . In order to prevent even the appearance of sparking or spray from these sheets of water and to keep the water flowing in proper form, an arrangement of cylinders or pipes p' p^2 p^3 is provided to admit and control the circulation of air and aid 90 in throwing or propelling it out between the two conical basins b b' . As shown, the pipe g does not come to an abrupt head. The water from pipe g finds its way, as shown by arrows, round the transverse opening g^2 to the 95 openings g^3 , where it finds an exit to the dome f' . The water at the same time rises through the perforated divisions shown on drawings to supply the domelet k . The transverse open- 100

ing g^2 and pipe g^4 are for the purpose of allowing the wires or connections for the electric lamps, (or other lights,) which are suspended from the flat disk, to be led through to the disk.

To facilitate the circulation of air, a fan or a set of fans m , driven by electric or other motors m' , secured on brackets n around the central pipe c , is or are provided, and said fan or fans draw the air through the water, where it is broken up in falling into the tank a and force it through the pipes $p^1 p^2 p^3$, as indicated by the arrows, part of the air passing through ventilator-gratings p^4 into the outer pipe p^3 , and within the water cascade toward the top thereof, thereby tending to impart to it the barrel shape shown, and part escaping through outlets q , carried through the dome-plates d d' . The pipes or cylinders $p^1 p^2 p^3$ are so arranged as to prevent air-currents splitting the water either from the inside or the outside. The cylinders around the central stem or water-pipe c also serve the purpose of drawing the main sheet of water inward toward the bottom in order to prevent spluttering round the edge or where the water falls between the inner basin b' and the central cylinders. When the fan or fans is or are not rotated, or if they be omitted, the air may be drawn in by the main body of falling water and between it and the inner basin and after being cleansed sent out in volume, discharged between the said inner basin b' and the main outer basin b cooled and cleared of impurities. A portion of the same air may also be delivered through a series of holes or apertures r , formed round the lower part of the outer basin b or in the coping above the main body of water in the tank a below.

In behind each cascade or flow of water are placed incandescent electric lamps or lanterns or gas or other lights of different colors or of one color, and a special disk u may be put on the outer edge of the inner dome d for assisting in the formation of the barrel shape of the flowing water and for agitating the water, its edge being serrated or otherwise formed in order to give a wavy or spiral motion to the water and while leaving it translucent to destroy its transparency, so that only the luminous effect of the lamps behind the water is seen from the outside, or the same serrated-edge arrangement may be formed on either or on any of the edges of the domes themselves.

In the modification shown in Figs. 4 and 5 there is used but one fan w for circulating air within the space inclosed by the falling water. In place of the straight continuous central pipe c there is provided a pipe x , branched in the form of a harp around the fan and carrying the motor. The fan is thus centrally disposed in the fountain, and the water rising to the dome y is distributed through the branches of the pipe x , the united streams passing to-

gether through the upper central portion, as will be understood.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. An ornamental water-fountain, comprising, in combination, a tank, a conical basin above said tank, a dome-like flange, an upright pipe leading water to the top of said flange, a dome-plate covering said flange and inclosing the discharge-water between said plate and said flange, means for admission and exit of air from the space inclosed by the falling water, and means for circulating air within said space, as and for the purpose set forth.

2. An ornamental water-fountain, comprising, in combination, a tank, two conical basins arranged over said tank, an upright pipe, a dome-like flange receiving the end of said pipe, a dome-plate covering said flange leaving a narrow annular space between the edges of said plate and said flange, pipes for regulating the inflow of air to the space inclosed by the falling water, and a fan for drawing air through the water where it is broken up, as and for the purpose set forth.

3. An ornamental water-fountain, comprising, in combination, a tank, two conical basins arranged over said tank, an upright pipe, a dome-like flange receiving the end of said pipe, a dome-plate covering said flange and leaving a narrow space between the edges of said flange and said plate, pipes for leading air to the space inclosed by the falling water, a fan for circulating air within said space, and devices for forcing out the cascade of water into barrel shape.

4. An ornamental water-fountain, comprising, in combination, a tank, a conical basin over said tank a shallower basin arranged within and concentric with the first basin, an upright pipe passing centrally from the tank through the basins, a flange on the upper end of said pipe, a dome-like cover-plate for said flange, leaving a narrow annular space between the edges of said flange and said plate, a second pipe, second flange and dome-plates disposed vertically over the first dome, a third dome, means for leading water to the top of said third dome, and means for admitting and means for circulating air within the space inclosed by the falling water, and for throwing out the water in barrel shape, as and for the purpose set forth.

5. An ornamental water-fountain, comprising, in combination, a tank a , a conical basin b over said tank a , a shallower basin b' within and concentric with the first basin b , an upright pipe c passing centrally through the tank a and basins b b' , a flange d on the upper end of said pipe c , a dome-plate d' covering said flange d and leaving a narrow space between the edges of the plate d' and flange d , a second pipe g , second flange and dome-plate

$f f'$ vertically above the first dome, a third dome k , means for leading water to said third dome k , pipes p', p^2, p^3 to admit and control the circulation of air within the space inclosed
5 by the falling water, fans m arranged to draw air through the water where it is broken up and force it through the pipes p', p^2, p^3 ventilator-gratings p^4 through which part of the air passes to the outer pipe p^3 outlets q carried through the dome $d d'$, and a disk u hav-

ing a serrated edge carried on the outer edge of the inner dome d , as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two sub- 15 scribing witnesses.

JAMES KEITH.

Witnesses:

WALLACE FAIRWEATHER,
JNO. ARMSTRONG, Jr.