

Tesla's fountain has always seemed a bit odd to me. Why would he spend so much time and effort on it? Once I realized that Wardencliffe was a way to make man-made lightning and make it strike the ground at the same place every time with controlled timing I realized it was also an analog of a natural process modified for control and energy transmission. Read his July 4, 1899 Colorado Springs notes where he electrically tracked lightning storms across eastern Colorado even after they were out of sight. Then imagine those lightning strikes all hitting exactly the same place on the crust of the earth every time with controlled timing and strength.

That led me to consider Tesla's fountains as an analog of the earth's natural water cycle. The heat of the sun causes water in the ocean to evaporate. The hot air rises and it carries the water vapor with it and forms clouds. Once sufficiently cooled, the water vapor in the clouds condenses to form rain. The rain falls back to earth, is collected by streams and rivers and flows back to the ocean. And, of course, some of that rain falls into the ocean as well.

Looking at Figure 4 in the patent, it's very clear to me that the pump motor substitutes for the sun as the energy source and the impeller raises the water, albeit without evaporation. The ports 4 in Figure 4 of the patent niggled at my brain for a while until I realized where I had seen something similar in Tesla's work. That was Diagram b in "*THE PROBLEM OF INCREASING HUMAN ENERGY*" titled "Obtaining energy from the ambient medium".

Can we combine parts of Figures 2 and 4 from the fountain patent and substitute the cylinder from Diagram b for the cones in the fountain patent and possibly create an over unity device?

IMO, here are the relevant Tesla passages:

*THE PROBLEM OF INCREASING HUMAN ENERGY* - Nikola Tesla, Century Magazine, June 1900

Conceive, for the sake of illustration, enclosure T, as illustrated in diagram b, such that energy could not be transferred across it except through a channel or path O, and that, by some means or other, in this enclosure a medium were maintained which would have little energy, and that on the outer side of the same there would be the ordinary ambient medium with much energy. Under these assumptions the energy would flow through the path O, as indicated by the arrow, and might then be converted on its passage into some other form of energy. The question was, Could such a condition be attained? Could we produce artificially such a "sink" for the energy of the ambient medium to flow in? Suppose that an extremely low temperature could be maintained by some process in a given space; the surrounding medium would then be compelled to give off heat, which could be converted into mechanical or other form of energy, and utilized. By realizing such a plan, we should be enabled to get at any point of the globe a continuous supply of energy, day and night. More than this, reasoning in the abstract, it would seem possible to cause a quick circulation of the medium, and thus draw the energy at a very rapid rate.

<https://teslauniverse.com/nikola-tesla/articles/problem-increasing-human-energy>

Note that Tesla's article speaks of heat and cold and heat moving to cold, but he also uses the term energy. The potential kinetic energy of the fluid in his fountains is also a potential energy that can be moved, and in doing so transforms the potential to real kinetic energy which can be transformed to electrical energy.

*Electrical World and Engineer*, January 7, 1905, pp. 21-24

"It should be borne in mind that electrical energy obtained by harnessing a waterfall is probably fifty times more effective than fuel energy. Since this is the most perfect way of rendering the sun's energy available, the direction of the future material development of man is clearly indicated."

<http://www.tfcbooks.com/tesla/1905-01-07.htm>

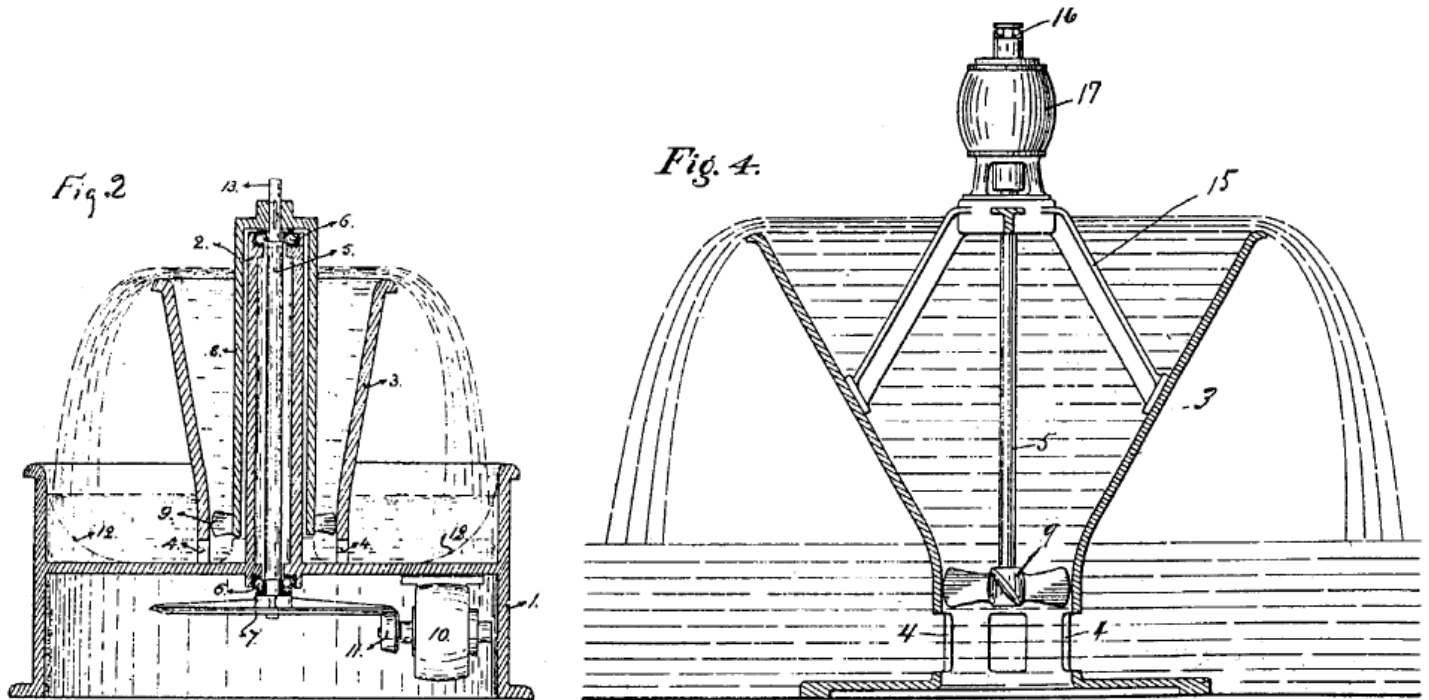
Tesla's fountains create waterfalls.

TESLA PATENT 1,113,716 FOUNTAIN, Applied for 1913

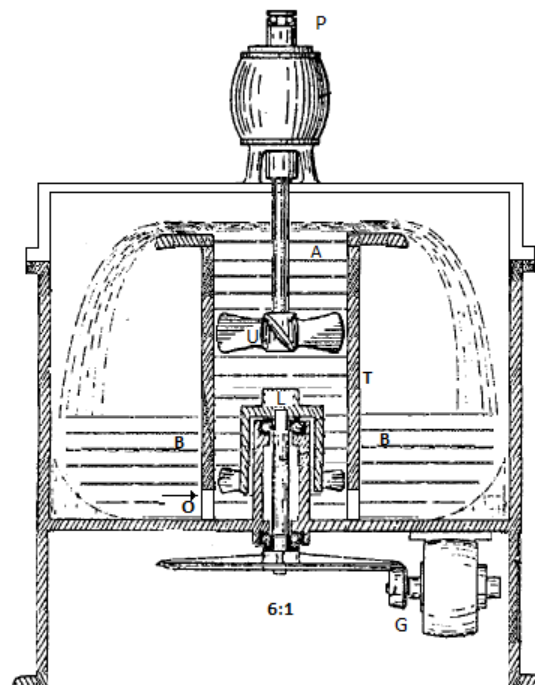
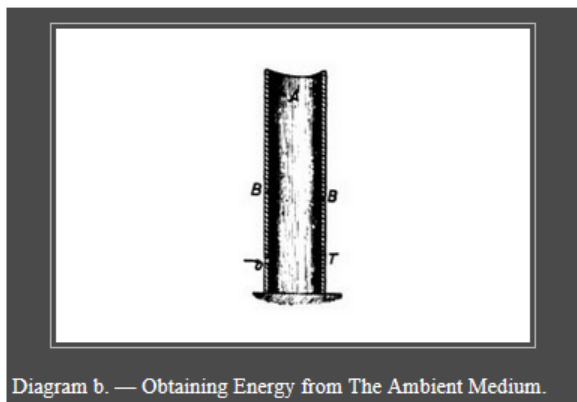
Tesla's fountain patent shows two implementations for use as fountains.

<https://teslauniverse.com/nikola-tesla/patents/us-patent-1113716-fountain>

The following image shows the two fountain embodiments included in the patent from which we will extract our components.



The following image is Tesla's self-acting engine from *THE PROBLEM OF INCREASING HUMAN ENERGY* alongside the fountain components arranged into one unit. P is the pump motor, U is the upper impeller driven by the pump motor that directs the fluid upward, L is the lower impeller which is turned by the rising fluid and G is the generator turned by the mechanical attachments to the lower impeller. The other letters identify the components in Tesla's self-acting engine.



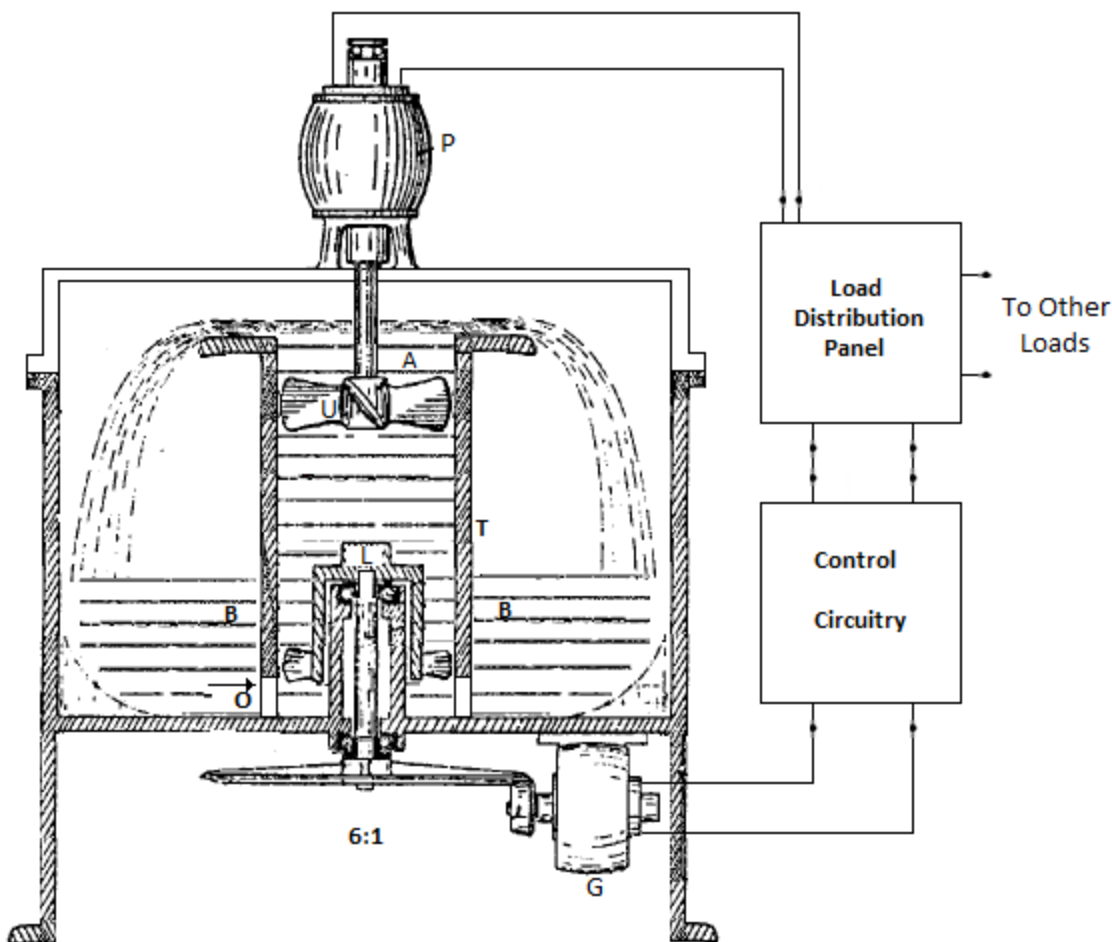
Pumping from the top creates the energy “sink” and water from the ambient medium “B” flows through port O and drives the lower impeller L as it rises in the cylinder. Lower impeller L turns the generator G.

Pumping from the top reduces the amount of energy needed to create the flow of water since it only needs to lift the water above the top impeller while gravity and air pressure refill the column of water from the bottom. The wheel and pulley attached to the lower impeller multiply the RPM to increase output. That shown is approximately 6:1 but a larger ratio could be employed.

This arrangement also fulfills one of the requirements for an over unity device, namely that the input and output be decoupled or loosely coupled.

In terms of Diagram b in *THE PROBLEM OF INCREASING HUMAN ENERGY*, the text would be different but the result the same. Tesla speaks of converting heat to electricity. This system would convert the kinetic energy of the moving fluid to electricity much the same as a hydroelectric generator, e.g. Niagara Falls.

And here is a drawing with some electrical circuitry added. Since we aren’t interested in the visual effects of the fountain we can mount the pump motor as shown which removes the braces on the original fountain and thus removes that impediment to fluid flow.



Now imagine the center cylinder being 40, 60, or 100 feet tall. The falling water would be accelerated by gravity which would add kinetic energy to the system also. Startup of systems with tall center cylinders would be accomplished by filling the device with fluid at least to the height required to submerge the upper impeller and the pump is turned on. Once the suction is established fluid is drained from the system to lower the level of B, the “ambient medium”, giving the water a longer distance to fall.

The device is shown using components from Tesla's works. Modern components could make it more efficient.

What we have here is another analog of a natural system, the earth's natural water cycle, modified for control and energy extraction.