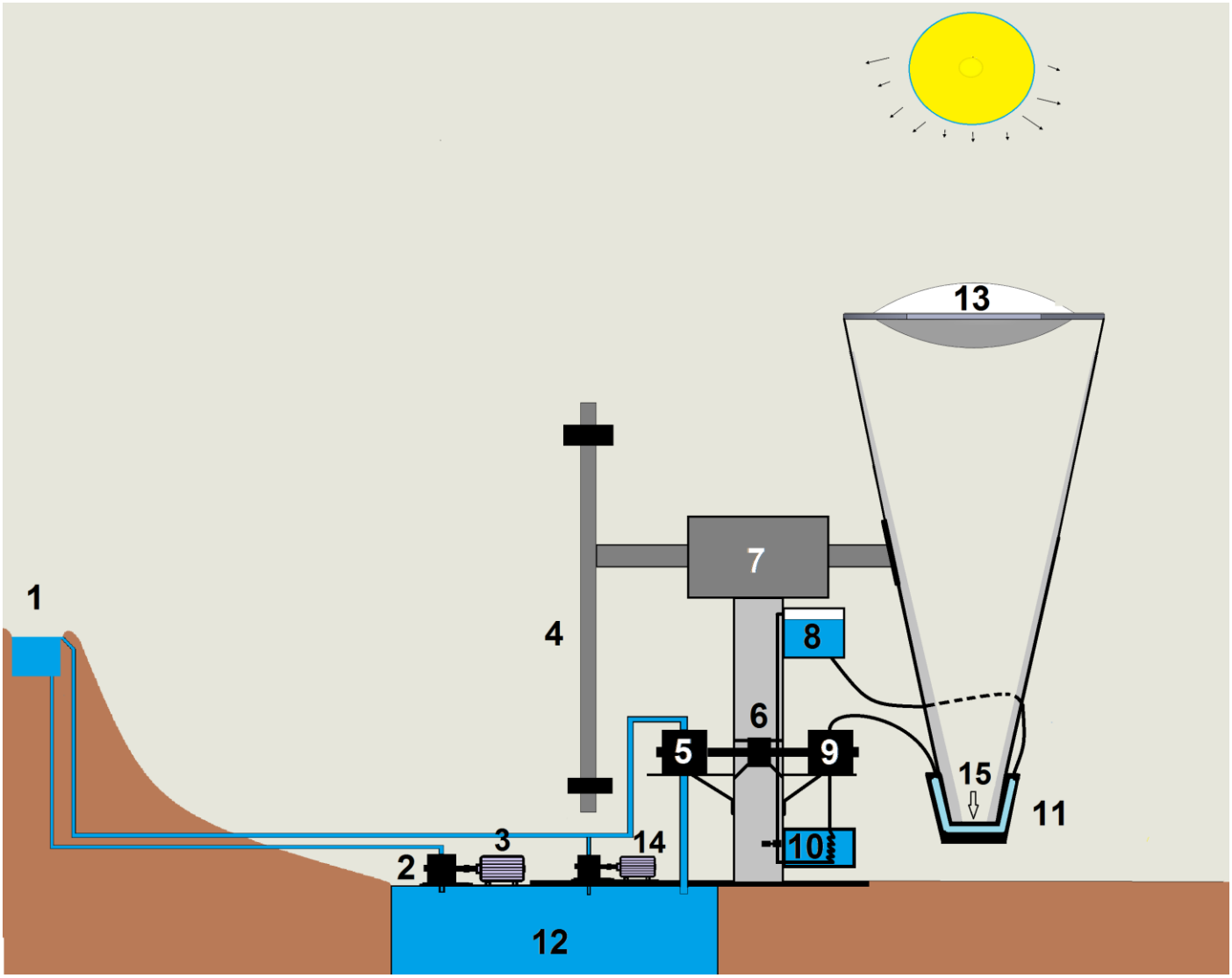
Description

Example plant: photovoltaic with lens and water storage



1. 2 x water tank -1- and -12-, height difference at least 30m
2. 1 x Zired engine as water engine -2- (torque from the first turn)
3. 1 x commercial power generator -3-
4. 1 x counterweight -4-
5. 1 x Zired engine as water pump -5- (pumps from the first turn)
6. 1 x gear 1:10
7. 1 X control unit -7-
8. 1 x water reservoir for the evaporator -8-
9. 1 X Zired engine as steam engine -9- (torque from first turn)
10. 1 x heat exchanger -10-
11. 1 X Evaporator -11- (focus -15-)
12. Storage medium water (or low viscosity liquids)
13. 1 x burning glass -13- Ø 1.4 m

    option

14. 1 X Zired engine as water pump (pumps from the first revolution) + 1 X electric motor -14- with gearbox

Advantages:

- 100% self-sufficient power supply
- Simple, robust and cost-effective wind turbine design
- 100% eco-friendly technology
- Low maintenance
- Power optimization features2 (option)
- 24 hours a day stable power production with a commercial power generator
- Uninterrupted and stable power production even with up to four weeks and more calm (prerequisite: a pool of at least 10000 m3 volume and either or both functions for optimizing power consumption)

Disadvantage:

- It requires the construction of a water basin, outside the photovoltaic, with at least 30m difference in height

Function Description

Two servomotors (control unit -7-) ensure that the entire construct (firing glass -13- + evaporator -11-) follows exactly the sun's path. The evaporator is supplied by the water reservoir -8- with water and heated by the focal point -15-. The steam produced drives the Zired engine (steam engine -9-). The axis of the Zired engine (steam engine -9-) is coupled by a gearbox -6- to the axis of the Zired engine (water pump -5-). Thus, in this case, the Zired engine, which acts as a water pump, is driven by the steam engine -9-. The outlet of the Zired engine (water pump operation) is connected through a pipe to the water tank -12- and the inlet to the water tank -1-. Thus, the Zired engine (water pump -5-) can pump the water from the water tank -12- high into the water tank -1- and this at several meters height (due to the design). The Zired motor in pump mode -5- does not have to be in the medium to pump (no danger of running dry). The pump -5- can namely suck the medium (water) up to a certain height. The tank -1- is connected to the inlet of the lower Zired engine (water engine -2-) with a valve and a second pipe. The axis of the Zired engine (water engine -2-) is coupled by a transmission with the axle of a market for example 1-3 MW generator -3-, which drives it with stable revolutions. This constellation with three Zired engines (the Zired engines are identical, but different dimensions) ensures only the independent operation of potential energy storage and power production. That means the water pump is independent of the water engine. The water pump runs at variable revolutions (depending on how the sun shines) and pumps the water from tank -12- to tank -1-. All this is only possible because the Zired engine can pump from the first revolution and not just from a certain speed as all commercial pumps. The water engine and the steam engine also provide the torque from the first turn. Thus, when the sun is shining, the steam engine -9- rotates with variable revolutions and forces the water pump -5- to pump. As a result, these fluctuating amounts of water pump up. The water engine -2- is driven by the pressure that the water exerts (potential energy) (10m water column => approx. 1 bar, the volume of water does not matter, only the height difference). The Zired engine (water engine -2-), which can also function as a check valve (if the Zired engine does not turn, then no water runs through), turns stable controlled. That is, when the water flows from tank -1- down to tank -12- through the water motor -2- (proportional valve), it drives the engine and this results in a generator -3- with stable turns and all that only if this is wanted (tank -1- has the above-mentioned proportional valve: it can open and close variably).

Attachment

1. Registered for utility model

2. Power optimization features

Power optimization is achieved either with the Electricity on Demand function or with the Recursive Pump function or both. Electricity on demand Simply put, if there is no demand for electricity, then power production is at a standstill. This function only makes sense for small power grids with up to four households. This saves water resources. Recursive pump

With this function, the power production runs continuously. In the event that the power grid is not fully loaded, with the remaining energy, an additional Zired engine in water pump operation is driven by an electric motor, which pumps the water back into the storage tank. For example, when electricity is produced at night, but is not or is little used. The electricity is then not lost, but is used to pump up and store the used water again.