

Composition of a wooden artificial island

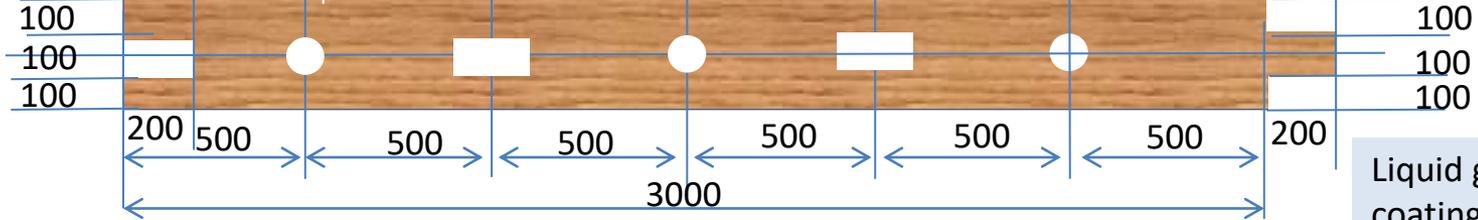
Japanese patent:

71 12150

wooden rivets
φ100

Can also be used as positioning for connecting units
↓ the part of

Standard lumber: 3000 x 300 x 200 (for square 12 m, use 12 outer frames and 24 frameworks)

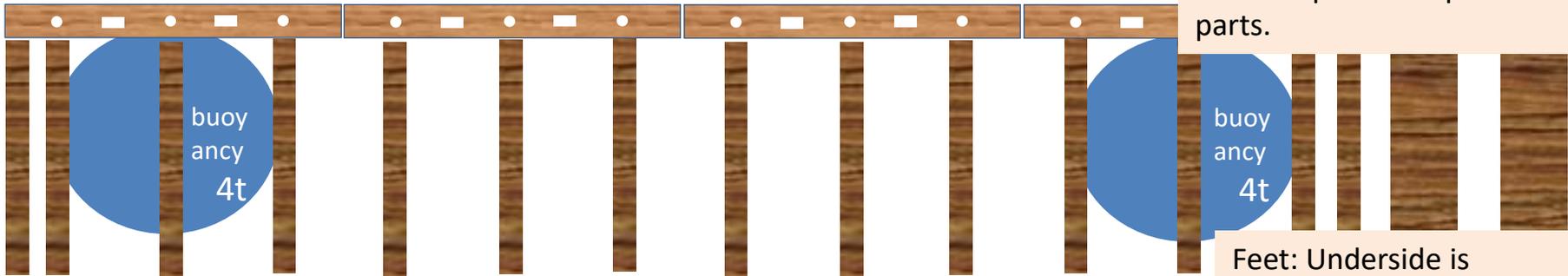


Length adjustment material: 2600 x 300 x 200 (use 10 pieces for □ 12 m)

Liquid glass coating is applied to the part above the water surface

Double female type outer frame material 3000x300x200 (using 2 pieces)

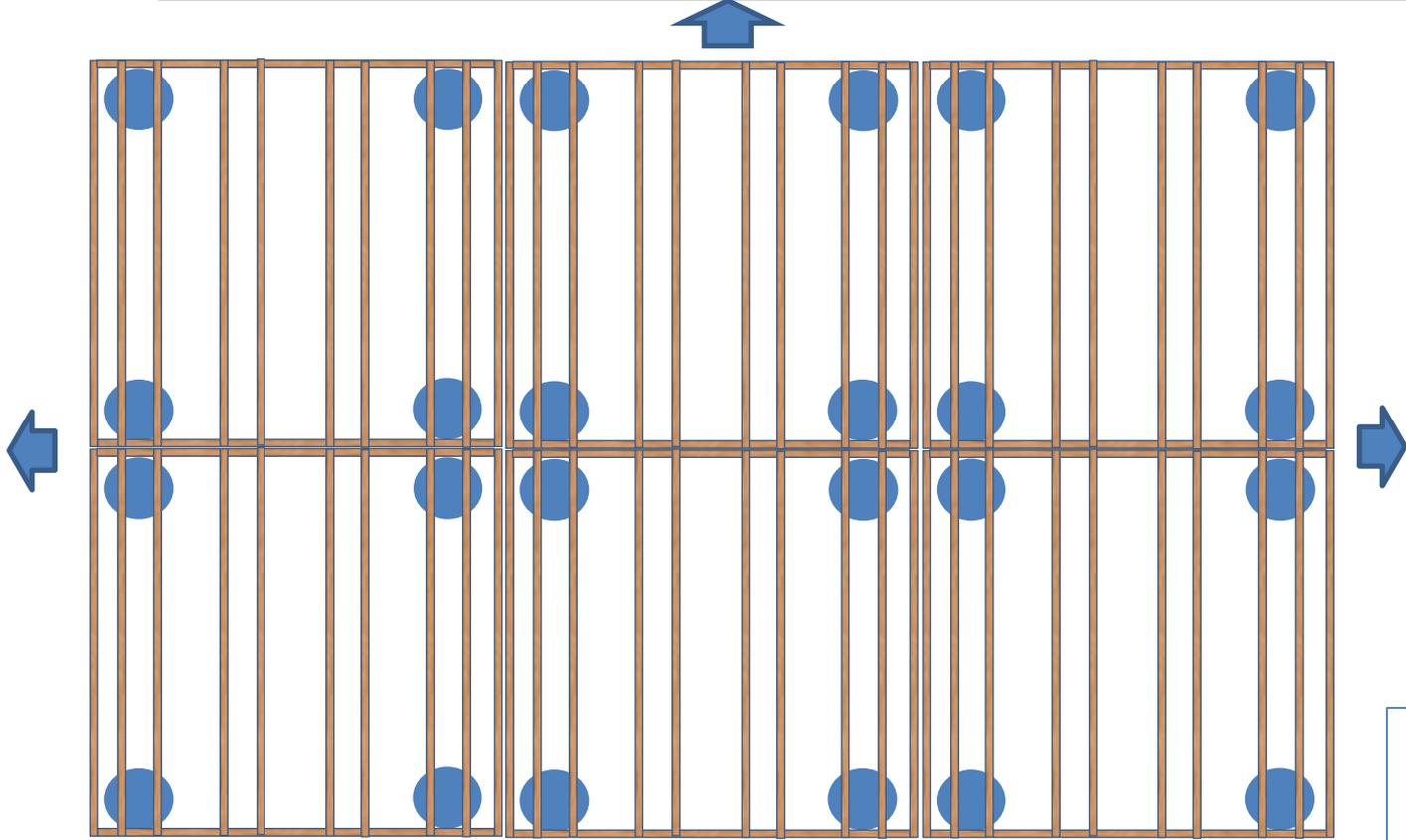
Feet: 2500 x 20 x 20 (48 pieces used) Rough dimensions are fine except for the processed parts.



wooden island unit : □6m、□9m、□12m、□15m、...

Feet: Underside is unprocessed, with skin, deformed is acceptable

□ In the case of a 12m artificial island unit, standard lumber: 12 outer frames of 3000x300x200 and 24 frameworks are used, length adjustment materials: 10 2600x300x200 are used, and 2 double female type outer frames of 3000x300x200 are used. Use (the above is flooring), and use 48 pieces of 2500x200x200 as footings.



Units are connected with $\phi 100$ wooden rivets for positioning and glued with wood glue.

a predetermined size at woodworking factories (sawmills) in various places, temporarily assembled, the dimensions are checked, the parts are dismantled, brought to the ship as parts, reassembled on board, and cranes are assembled. Lower it with

When various types of renewable energy are installed, there is no need for a solid foundation and there is no need to worry about leveling, so the cost is low and it is safe.

The buoyancy of a balloon of about 2m is about 4t, and if 4 balloons are used, the buoyancy is about 16t. Combined with the buoyancy from the wood, the total buoyancy is 17-18t. increase.



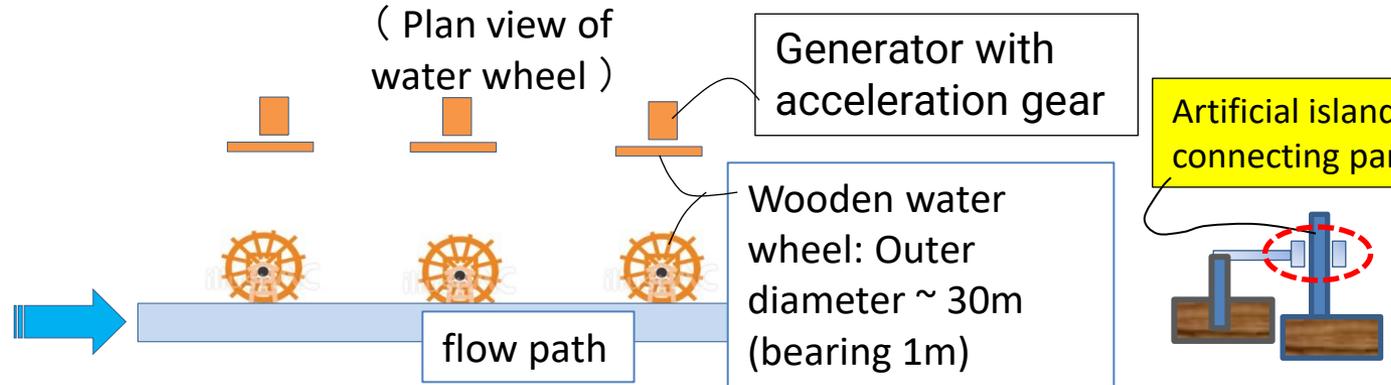
(Plan view of water wheel)

Generator with acceleration gear

Wooden water wheel: Outer diameter ~ 30m (bearing 1m)

Artificial island unit connecting part

Challenge all wood



□ 12m with 10x10 pieces One unit lot

3-stage garbage collection point: 10 cm or more, 1 cm or more and 1 mm or more

Turbine & Generator

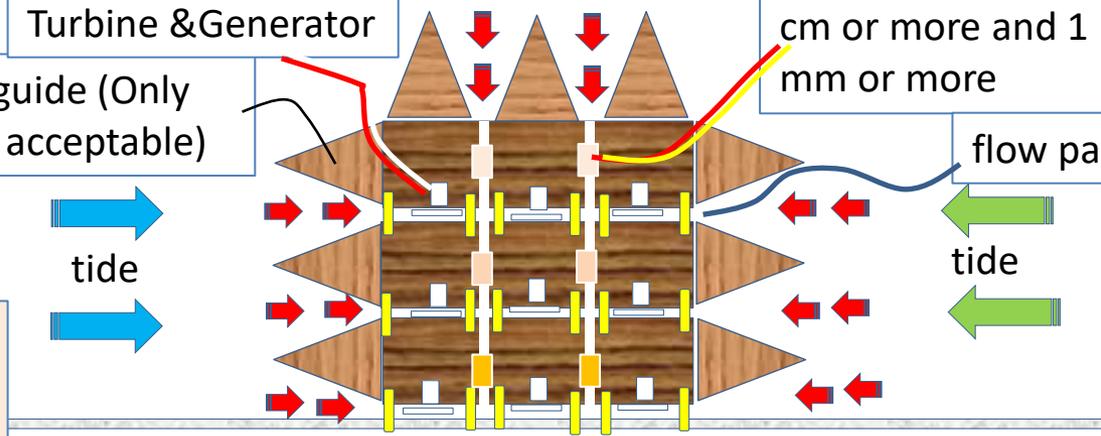
Wooden pilotage guide (Only the outer frame is acceptable)

flow path

tide

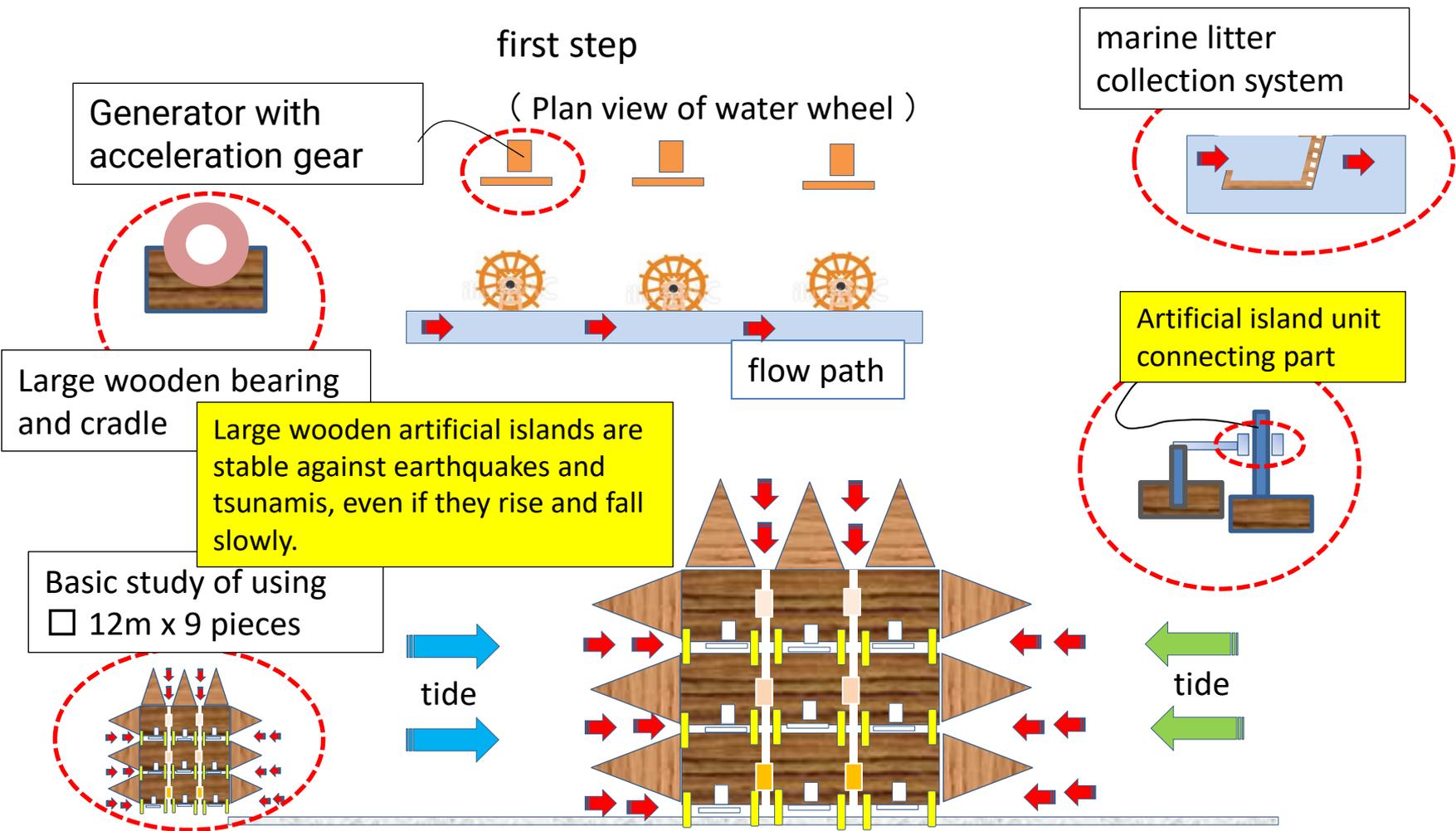
tide

Consider whether it is possible to use seawater as a lubricant for the 1m wooden bearing.



Breakwater (land side)

If there is even a slight tidal current from either side without standing still at all, Bernoulli's theorem will cause the current to accelerate and the reversible generator will generate electricity. Even if the flow path is made narrower, seawater overflows against gravity, and although the flow velocity is limited, the flow rate is not insignificant. It can be securely connected to a water tank and can operate multiple water wheels. (Compilation of traditional woodworking techniques)



Municipalities within the EU, while sharing information, as the first step, consider the basics of using nine square 12m squares (wood processing technology, speed measurement of the flow path), consider large wooden bearings and cradles. (including a system that uses sea water as a lubricating oil), a generator with an acceleration gear, a marine garbage collection system (which the robot periodically pulls up and puts in a tray on a trolley), and wooden fixings between artificial wooden islands and breakwaters. Consider how.

The contents of the first step will be maintained for the next generation as a long-term observation application for deterioration over time and tidal currents.

Water current power generation of pool & wooden artificial island

river

Dig a 3m-deep 28m wide x 25m long hole (assuming four 12m square artificial islands are used) in a nice spot on the river, and fill the surrounding area with concrete.

Squeeze the channel with a concrete member (application of Bernoulli's theorem)

20m class wooden water wheel

generator with gearbox

mud spitting system
pool side view
pump

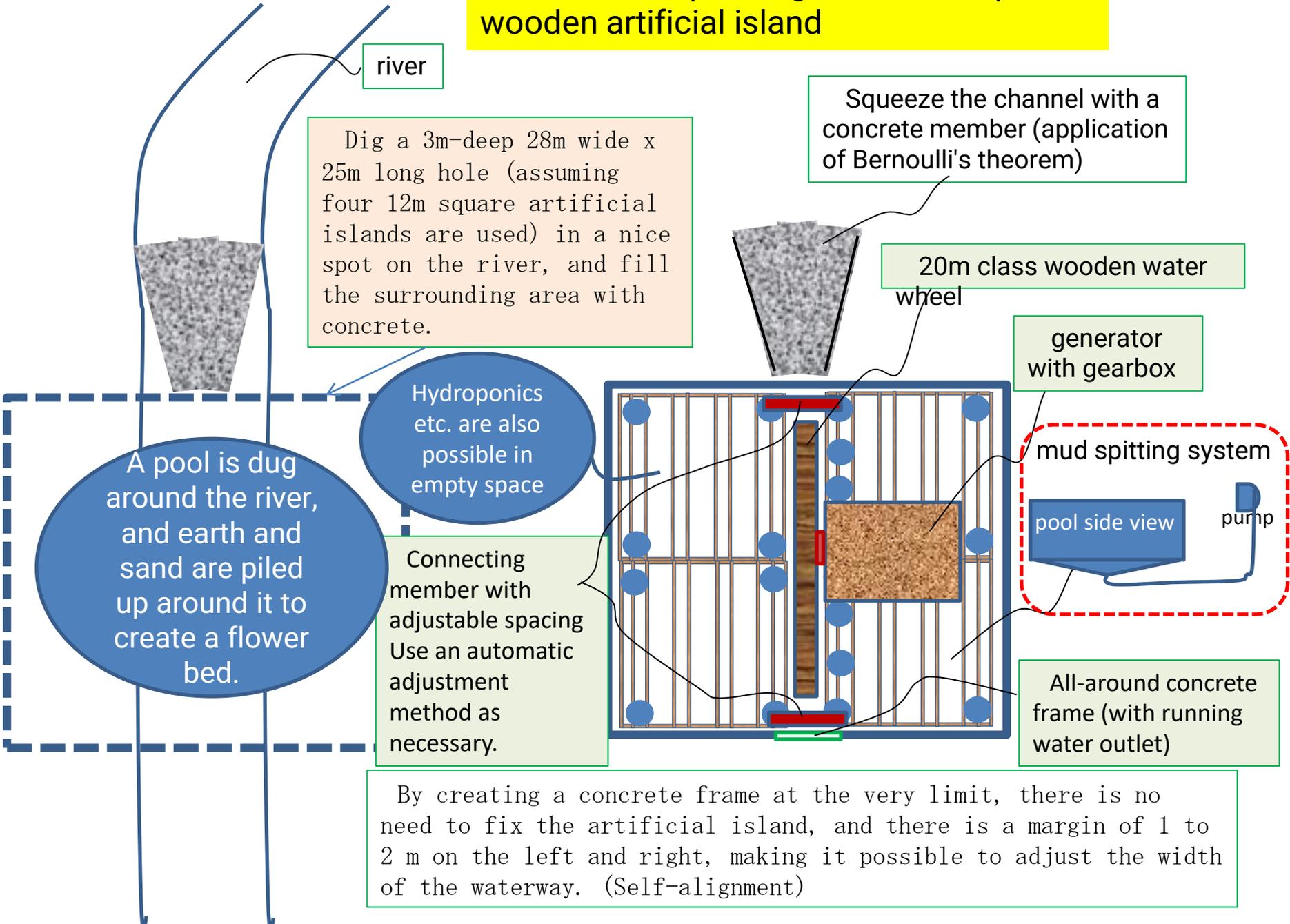
All-around concrete frame (with running water outlet)

Hydroponics etc. are also possible in empty space

Connecting member with adjustable spacing
Use an automatic adjustment method as necessary.

A pool is dug around the river, and earth and sand are piled up around it to create a flower bed.

By creating a concrete frame at the very limit, there is no need to fix the artificial island, and there is a margin of 1 to 2 m on the left and right, making it possible to adjust the width of the waterway. (Self-alignment)

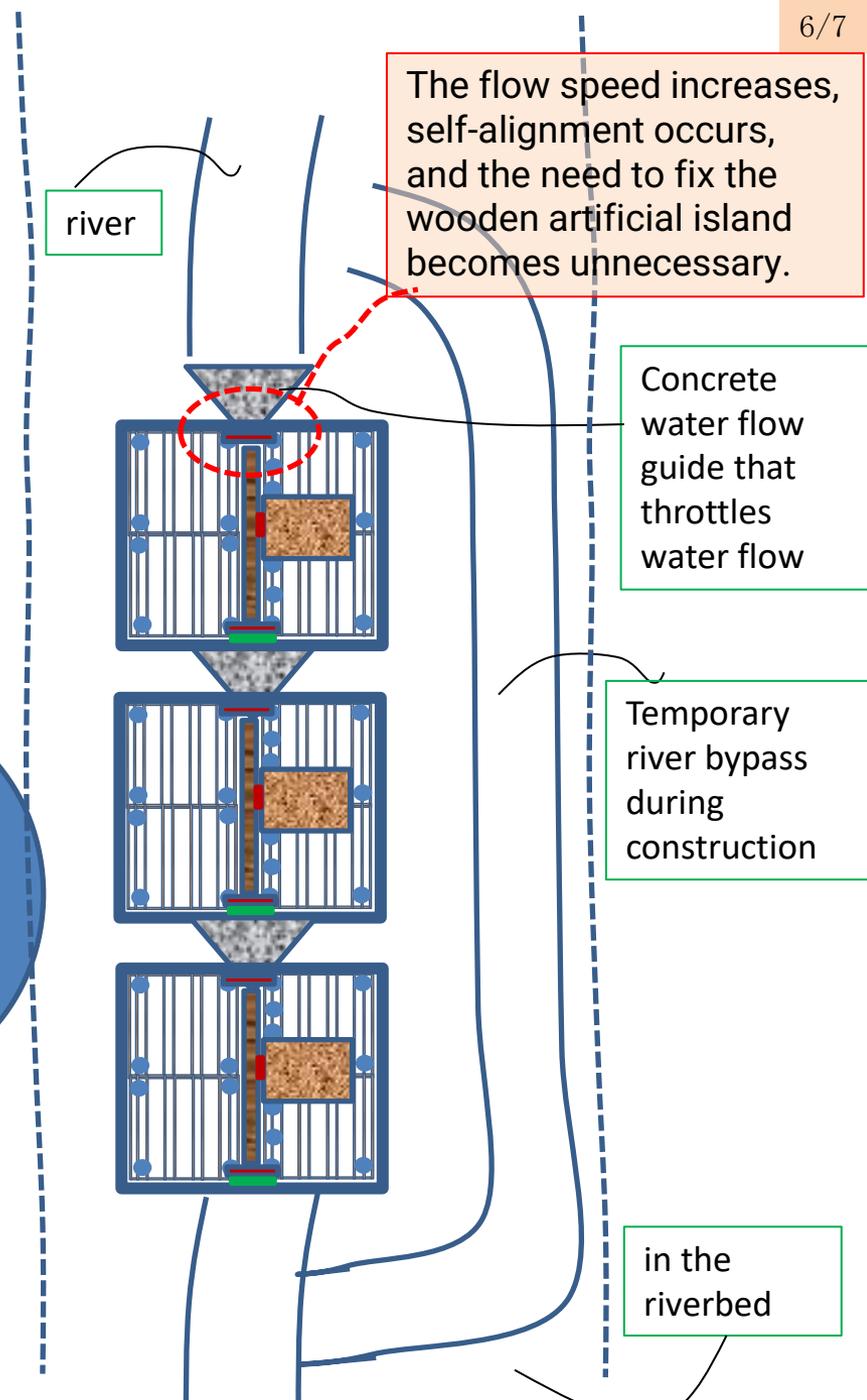


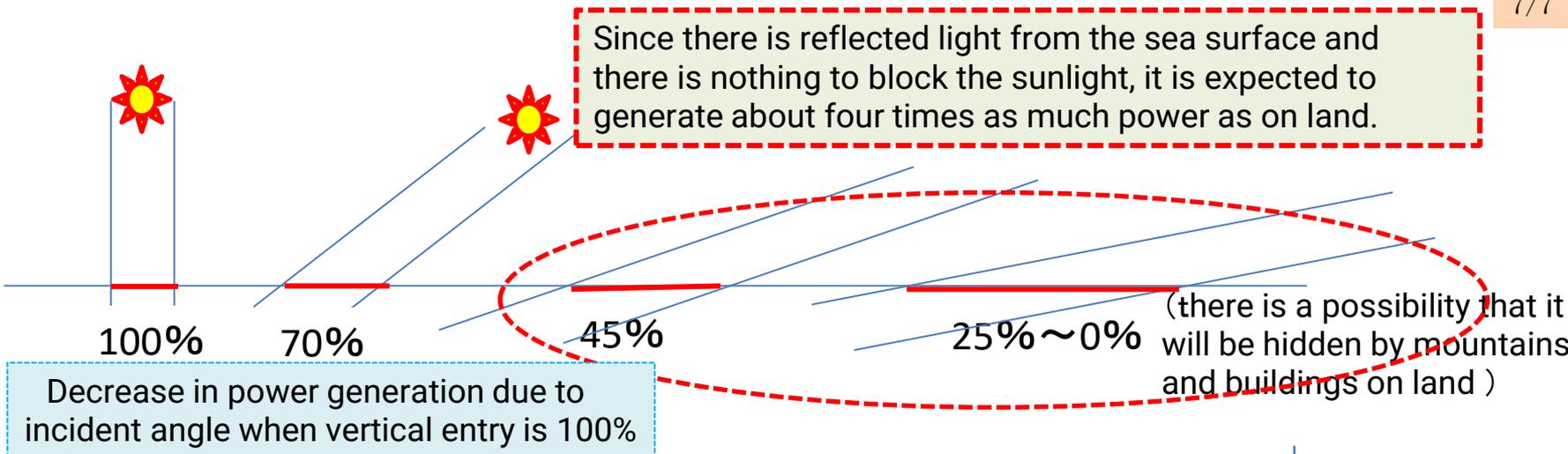
Manufacturing (construction) procedure for water current power generation in pools and wooden artificial islands

1. Create a river bypass (difficult to build a bypass upstream of the Tanigawa)
2. Build a concrete pool.
3. Make a water flow guide to throttle the water flow.
4. Assembling a wooden artificial island in a waterless pool.
5. Assemble the generator with the gearbox.
6. Assemble and install the water turbine unit.
7. Switch from the river bypass to the main stream.

Each wooden part of the wooden artificial island is designed so that it can be carried by two people, and each part such as the wooden water wheel and gear box can be carried by multiple people, so there is no track road nearby. also be able to handle

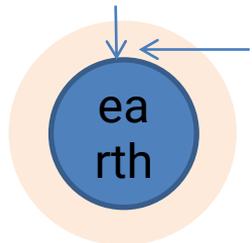
Self-aligning (automatic centering) eliminates the need to fix the artificial wooden island and has a high possibility of fitting in the riverbed, low cost, quick delivery, safety and improved scenery.





The basic unit of the wooden artificial island is \square 12m, and the medium unit made by wooden rivets and glue: \square 12m is defined as 10 x 10 pieces (= \square 120m).

When 3x3 medium units are arranged, 12 water turbines ($3 \times 120 / 30 =$) of less than 30m are arranged in two rows (24 units), arranged in horizontal and vertical channels, (interference between vertical and horizontal), we believe it is possible to install about 40 tidal current generators. In addition, assuming that one tree-type solar power generation system is installed in the basic unit (square 12m), about 80 units can be installed in the empty space for installing tidal current generators in the middle unit, and about $80 \times 3 \times 3 = 720$ units can be installed. become.



It can be used until the last minute of sunrise and sunset.

