

**THE OPPORTUNITY**

The Agency of Industrial Science and Technology (AIST) of Japan has developed and patented a simple method of assembling a multiplicity of pairs of opposed electrodes for use in batteries and fuel cells. The fabric can easily be formed into any desired shape.

**PATENTED TECHNOLOGY**

Current U.S. patents granted that protect the technology include:

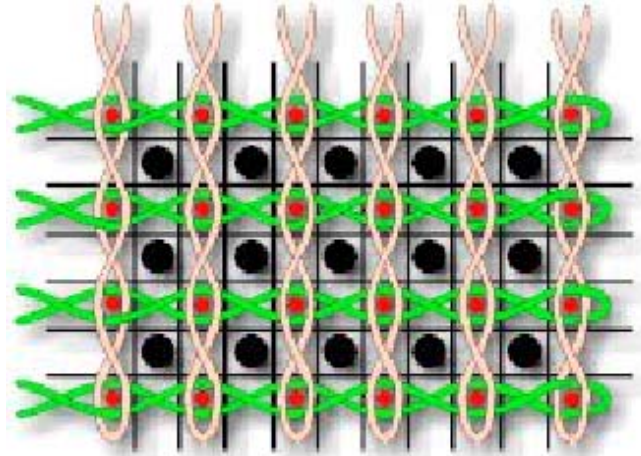
<u>US Patent</u>	<u>Features</u>
5,242,768	<ul style="list-style-type: none"> <li>• Three-dimensional woven fabric for battery.</li> <li>• Easy to form and manufacture in any desired shape.</li> <li>• Excellent strength and mechanical properties.</li> <li>• Enables efficient assembly of many pairs of opposed electrodes.</li> <li>• Batteries using this fabric structure are not constrained by power capacity limits or constraints.</li> <li>• Electrodes can optionally be solid electrolyte or polymer-slurry-based compositions.</li> </ul>
4,336,296	<ul style="list-style-type: none"> <li>• Three-dimensionally latticed flexible-structure composite.</li> </ul>
4,615,256	<ul style="list-style-type: none"> <li>• Method for formation of three-dimensional woven fabric and apparatus for making it.</li> </ul>

One of the preferred electrode pair combinations uses a cuprous chloride, copper sulfate, copper dioxide, or nickel oxide cathode with a magnesium anode, immersed in seawater electrolyte.

**ADDITIONAL BENEFITS**

The flexibility in design provided by this technology also enables:

- Solid electrolyte constructions with e.g. LiClO<sub>4</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, and other common materials.



- Polymer-bound cathodes; e.g. styrene-butadiene type rubber in organic solvent which is evaporated.
- Unique assemblies such as by floating a battery in seawater for use as a power source for an unattended lighthouse.

**INTELLECTUAL CAPITAL**

This technology was developed at AIST, Japan's premier, public research organization.

With research facilities and more than 3,200 employees across Japan, AIST is an organization that comprises 15 research institutes previously under the former Agency of Industrial Science and Technology in the Ministry of International Trade and Industry and the Weights and Measures Training Institute.

**FOR MORE INFORMATION**

AIST is seeking to license this technology and assist with its commercialization. A number of investment options are currently under consideration.

Consideration will be provided to a range of financial, strategic, and commercial investment partnerships.

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