Invented in Peru
Made in Peru

BioPencil
¿Por qué KILL un árbol cuando puedes GIVE LIFE a uno?
Us
Awards

National Environmental Award 2014 “Award for the best Company in Corporate eco-efficiency”
Grant by Ministry of the Environment - Peru

Ms. Naoko Ishii, Chairperson and CEO of Global Environmental Fund (GEF) visited Acuisur’s hatchery in Paracas as part of their Lima COP 20 activities

Global Entrepreneurship Competition

Biz Barcelona “Social Responsability Company Prize”
Grant by BarcelonaActiva - Span

Innóvate 2016

Granted by Ministry of Production - Peru
Our Product
BioPencil?

BioPencil is a Peruvian company engaged in the production of 100% eco-friendly pencils, made from algae instead of wood, and designed to encourage greater awareness of the importance of ocean ecosystems.

BioPencil is conceived to reduce the impact of global warming and to increase environmental and social awareness.

BioPencil aims to become a leading globally recognized company in the manufacturing of eco-friendly pencils, promoting the bioremediation of coastal areas in order to benefit artisanal fishing communities, encouraging the economic inclusion of women over 50 years of age and raising environmental awareness among schoolchildren.

The inventors of the BioPencil are Hernan Garrido-Lecca and Luis Camuzzo.
BioPencil 100% eco-friendly

- Made of cultivated algae proven to have increased fishermen’s income in 46% (UNDP Report).
- Algae are treated and laminated through a patented (in Peru and USA) process.
- Handmade in Peru by women over 50 years–old.
- At one end the pencil has a capsule with Aguaymanto seeds inside.
- It requires no chemical or artificial products.

Components:

- Algae
- Capsules
- Seeds
- Graphite
Our Patent

(12) United States Patent
Camuzzo Rojas et al.

(54) PROCEDURE FOR OBTAINING SEAWEED SHEETS BY HEAT TREATMENT WITH ADDITION OF SALT AND BENTONITE FOR MAKING COVERS OF PENS OR PENCILS WITH ENCAPSULATED SEEDS AT THE END OF THEIR STRUCTURE

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(72) Inventors: Luis Antonio Camuzzo Rojas, Lima (PE); Hernan Jesus Garrido Lecca Montanez, Lima (PE)
(73) Assignee: BIOPENCIL S.A., Lima (PE)
(74) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 23 days.
(21) Appl. No.: 15/072,576
(22) Filed: Mar. 17, 2016
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(30) Foreign Application Priority Data
Mar. 17, 2015 (PE) 373-2015/DIN

(51) Int. Cl.
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B43K 19/00 (2006.01)
C05F 11/00 (2006.01)
C08L 8/00 (2006.01)
B43K 19/16 (2006.01)
B43K 8/00 (2006.01)
B43K 15/00 (2006.01)
B43K 19/14 (2006.01)
B43K 21/00 (2006.01)
B43K 29/00 (2006.01)
B43K 7/00 (2006.01)

(52) U.S. Cl. 
C05F 11/00 (2013.01); B43K 5/005 (2013.01); B43K 7/005 (2013.01); B43K 8/003 (2013.01); B43K 15/00 (2013.01); B43K 19/14 (2013.01)

(10) Patent No.: US 9,908,822 B2
(45) Date of Patent: Mar. 6, 2018

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B43K 19/16 (2013.01); B43K 21/006, (2013.01); B43K 29/000 (2013.01); C08L 8/00 (2013.01)

(58) Field of Classification Search
CPC B43K 15/00; B43K 19/145; B43K 19/00; B43K 19/02–19/16; B43K 5/005; B43K 7/005; B43K 8/003; B43K 21/006; B43K 27/006
See application file for complete search history.

(56) References Cited
U.S. PATENT DOCUMENTS
* cited by examiner

Primary Examiner—Carson Gross
(74) Attorney, Agent, or Firm—Sheridan Ross PC.

(57) ABSTRACT
This invention relates to the process for obtaining sheets made from seaweed that, when wrapped around a coal mine, wax mine or ink loads, give rise to the cylindrical and elongated cover of pencil or pen made based on algae, salt, bentonite and water, with a final layer of cotton thread optionally, tinctured with natural plant elements and having seeds at its rear end.

The process for the production of films made from algae by heat treatment with the addition of salt and bentonite for making covers of pencil or pen comprises the following steps: i) boiling seaweed containing collagen for gelatinization together with salt and bentonite; ii) poring the gelatinized algae into the bowl and dip a graphite for writing; iii) subjecting to temperature for drying the algae and obtaining sheets; iv) cutting the sheets, according to the size of graphite for writing, leaving a space at the rear end to place the seeds; and v) wrapping the graphite for writing with pieces of wet sheets to obtain a particular shape.

5 Claims, No Drawings
Creating value for everybody

Eco-friendly and socially responsible production process

CULTIVATED ALGAE

ALGAE HARVEST

HANDMADE BIOPENCILS

PACKAGING

Planting environmental awareness

USERS

TREE
**Our added value**

<table>
<thead>
<tr>
<th><strong>REGULAR PENCIL</strong></th>
<th><strong>VS</strong></th>
<th><strong>BIOPENCIL</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ A tree takes about <strong>14 years</strong> to grow to be used to make pencils.</td>
<td>✓ Our seaweed is either cultivated or harvested under sustainable management programs by fishermen coops in Peru.</td>
<td></td>
</tr>
<tr>
<td>✓ A cedar tree produces around <strong>172 thousand pencils</strong>.</td>
<td>✓ Skin contact with seaweed has been proven to have positive side effects.</td>
<td></td>
</tr>
<tr>
<td>✓ Only in the USA, <strong>11,600 trees</strong> are cut annually to produce 2 million pencils (which is just the annual consumption of NYSE).</td>
<td>✓ Social Responsibility</td>
<td>✓ Environmental Benefits</td>
</tr>
<tr>
<td>✓ Only Faber-Castell produces <strong>5.5 millions</strong> of pencils every day.</td>
<td>□ BioPencil’s production chain includes a group of women over 50 years of age, that were not part of the economic active population before; fishermen income is increased up to 46%</td>
<td>□ Produce more oxygen through algae cultivation.</td>
</tr>
<tr>
<td>✓ Its production requires cutting trees that in many cases produce deforestation causing Greenhouse effect.</td>
<td>□ Avoid deforestation by not using wood.</td>
<td>□ No need of machinery used to manufacture.</td>
</tr>
<tr>
<td></td>
<td>□ Promote environmental conciousness among users.</td>
<td>□ Plant more trees.</td>
</tr>
</tbody>
</table>

- A cedar tree produces around **172 thousand pencils**.
- Only in the USA, **11,600 trees** are cut annually to produce 2 million pencils (which is just the annual consumption of NYSE).
- Only Faber-Castell produces **5.5 millions** of pencils every day.
- Its production requires cutting trees that in many cases produce deforestation causing Greenhouse effect.

- Our seaweed is either cultivated or harvested under sustainable management programs by fishermen coops in Peru.
- Skin contact with seaweed has been proven to have positive side effects.
- BioPencil’s production chain includes a group of women over 50 years of age, that were not part of the economic active population before; fishermen income is increased up to 46%.
- Produce more oxygen through algae cultivation.
- Avoid deforestation by not using wood.
- No need of machinery used to manufacture.
- Promote environmental consciousness among users.
- Plant more trees.
BioPencil’s production chain includes groups of women over 50 years of age, that were not part of the economic active population before.
Think about this for a second

For each million of BioPencils produced we will:

- Avoid the cut down of more than 100 trees (some of them take more than 20 years to grow before they are converted into pencils).
- Provide oxygen for the ocean species through the production of cultivated seaweed.
- Increase monthly income for fishermen in up to 46%.
- Generate monthly income for more than 1000 women, over 50 years of age, that are now unemployed.
- Create environmental conciousness in more than a million people worlwide.
Instructions for planting the Aguaymanto seeds

1. Insert the seed capsule in a glass of water for 24 hours.

2. Remove the water and place the sedes (with traces of gelatinized algae of the BioPencil structure) in a pot with moist topsoil substrate containing no sawdust.

3. Keep the pot with moist substrate always in a cool area with natural light without being struck directly by the sun.

4. After 15 days, the Aguaymanto seed sprouts. After 40 days, it is recommended to transplant to the garden (prior preparation or conditioning of the garden soil).
Our Clients
Harvesting Seaweeds
Through the photosynthesis, algae produce about 60% of the total oxygen produced on the planet. They create more oxygen than all the trees, forests and plants combined.

Food and Agriculture Organization of the United Nations (FAO)

"Algae are the single most important living organism on the planet."

Ecology Global Network
- They improve and enrich the ecosystem
- They cause the accumulation of fish, crustaceans, mollusks and other species of high commercial value
HIGH TECHNOLOGY for seaweed cultivation in Peru

Cultivation biotechnology development by ACUISUR with the support of Peru’s FINCYT
**CLOSE COOPERATION WITH ARTISANAL FISHERMEN**

*Acuisur* is the only Company that actively participates in improving fishermen productive system. We provide them with a new vision to improve their quality of life. We share a common objective: Recover the coastal ecosystem to develop a self-sustainable model.
ECONOMIC MODEL
Viable and Self-Sustainable

Sustainable collection of algae over time thanks to the repopulation.
Progressive Increase in the productivity of the natural seaweed prairies and, thus, accomplish the enrichment of the Ecosystem

REFERENTIAL FIGURES

1 Ha. → Produces 10 Tons of dried seaweed per year.
1 Ton of dried algae → minimum selling price US $1,000 (income for the artisanal fishermen).

For every 20 Ha. → 200 Tons of dried seaweed per year → US $200,000/year (200 Tons/year * US $1,000/Ton)
Income for artisan fisherman

IMPACT

20 Ha.
of crops

100 Fishermen
We provide the artisan fishermen with a self-sustainable productive activity through a technology transference model and the repopulation of the species.
Invented in Peru
Made in Peru

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