



BioPencil

Invented in Peru
Made in Peru



¿Why **KILL** a tree when
you can **GIVE LIFE** to
one?



Us



Awards



National Environmental Award 2014 “Award for the best Company in Corporate eco-efficiency”

Granted by Ministry of the Environment - Peru



Biz Barcelona

“Social Responsibility Company Prize”

Granted by BarcelonaActiva - Spain



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



Granted by
Ministry of Production - Peru



Our Product



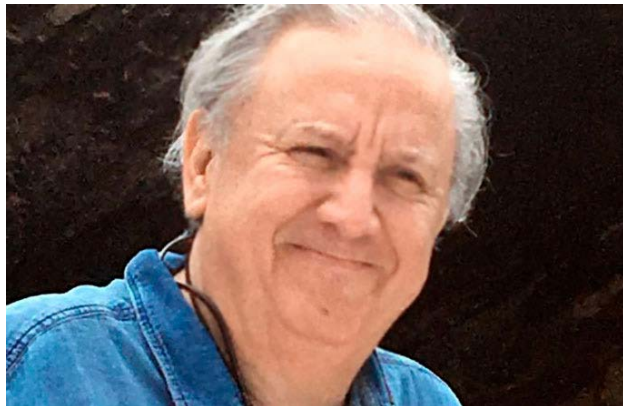
BioPencil?

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



US009908822B2

(12) **United States Patent**
Camuzzo Rojas et al.

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

(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**

(2013.01); **B43K 19/16** (2013.01); **B43K 21/006**, (2013.01); **B43K 29/00** (2013.01); **C08L 89/00** (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.

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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)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 23 days.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2007/0189836 A1 * 8/2007 Senga **B43K 1/086**
401/195
2010/0098475 A1 * 4/2010 Fujita **B43K 1/086**
401/1

* cited by examiner

Primary Examiner — Carson Gross

(74) *Attorney, Agent, or Firm* — Sheridan Ross P.C.

(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, tintured 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 iv) wrapping the graphite for writing with pieces of wet sheets to obtain a particular shape.

(21) Appl. No.: **15/072,576**

(22) Filed: **Mar. 17, 2016**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**
B43K 5/00 (2006.01)
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B43K 19/14 (2006.01)
B43K 21/00 (2006.01)
B43K 29/00 (2006.01)
B43K 7/00 (2006.01)

(52) **U.S. Cl.**
CPC **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**

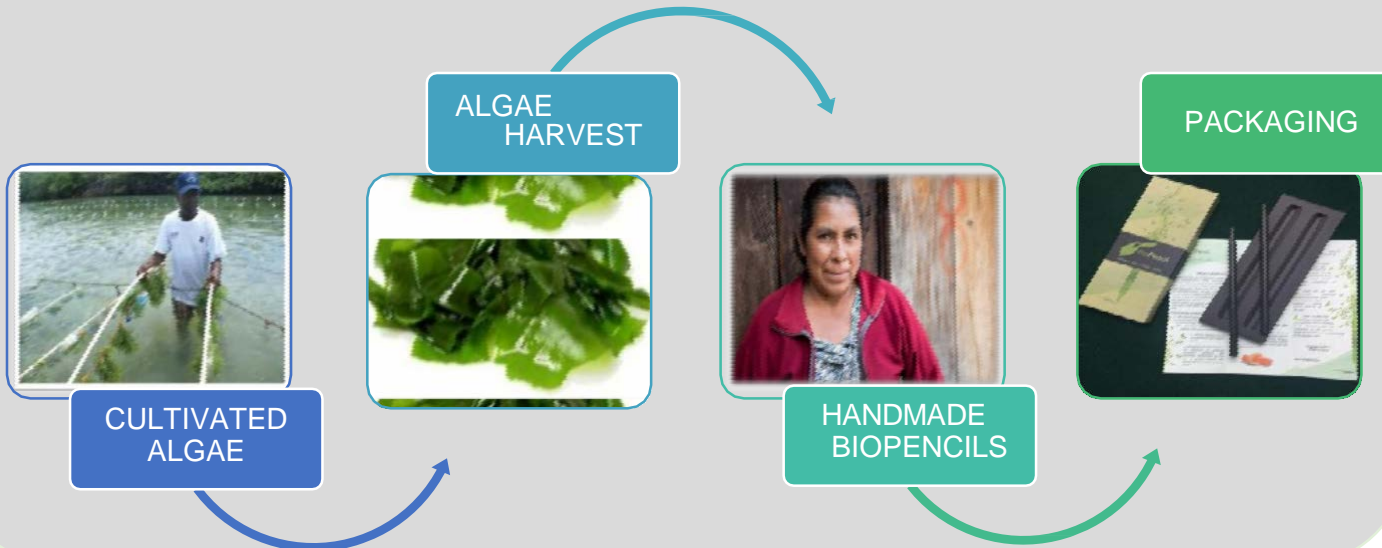
5 Claims, No Drawings

Our Patent



Creating value for everybody

Eco-friendly and socially responsible production process



Planting environmental awareness



Our added value

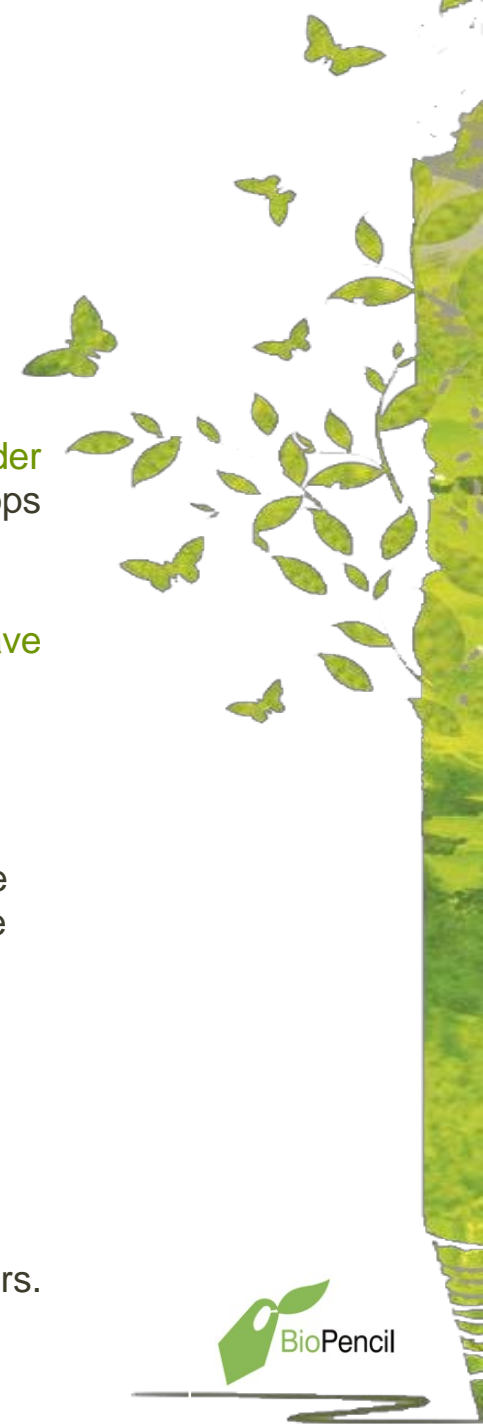
REGULAR PENCIL

- ✓ A tree takes about **14 years** to grow to be used to make pencils.
- ✓ 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.

VS

BIOPENCIL

- ✓ 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.
- ✓ **Social Responsibility**
 - 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%
- ✓ **Environmental Benefits**
 - 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.





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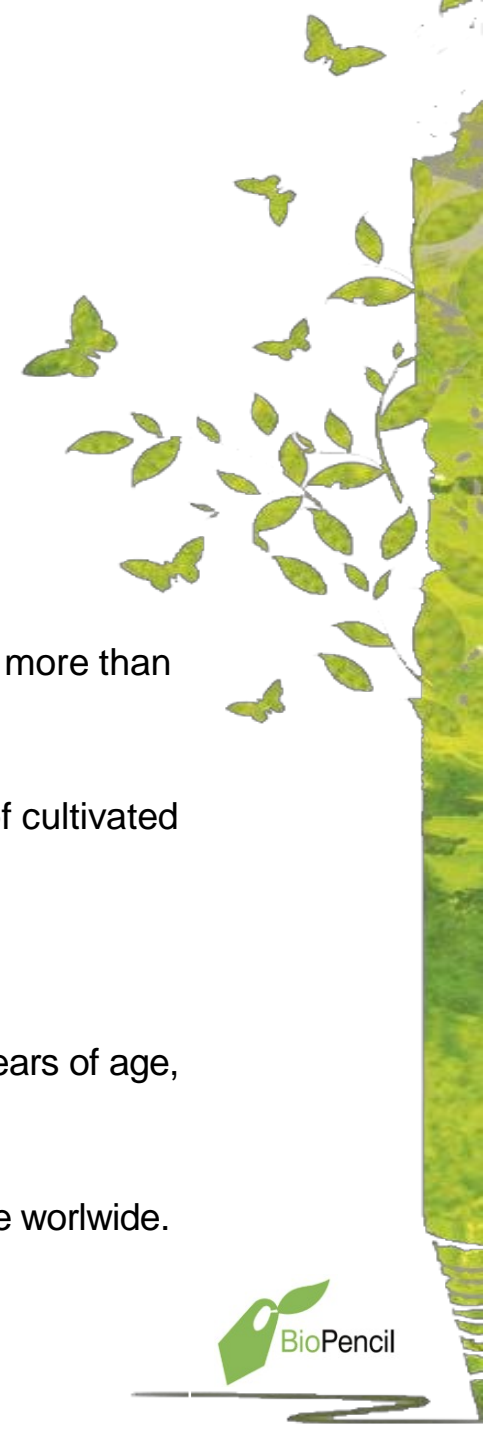


Think about this for a second



For each million of BioPencils produced we will:

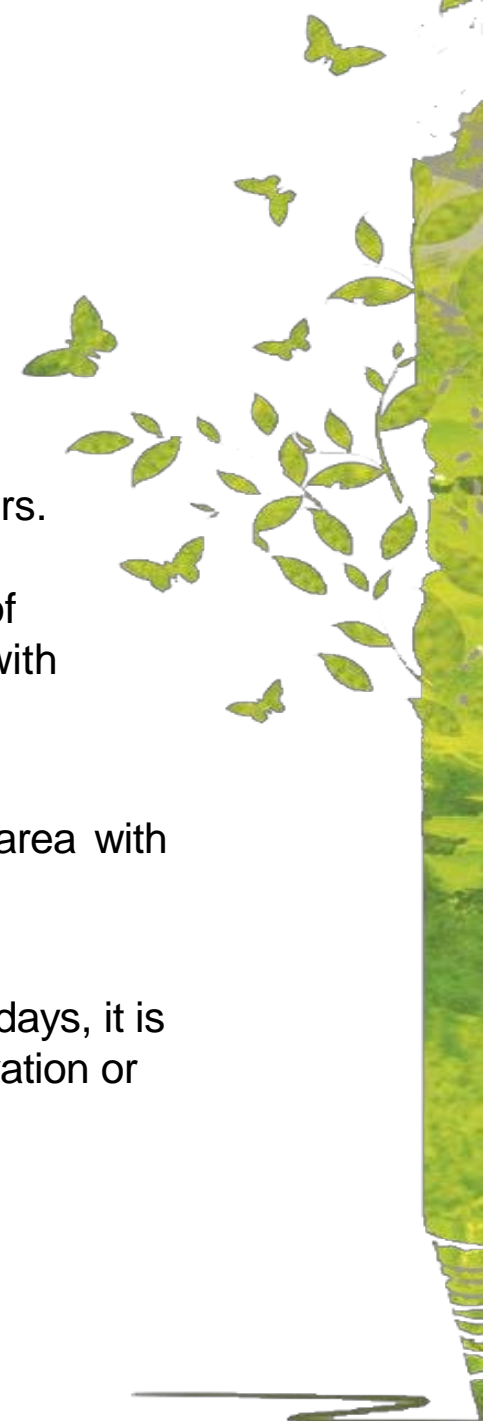
- Avoid the cut down of more than 100 trees (some of them take more than 20 years to grow before they are converted into pencils).
- Provide oxygen for the ocean species through the production of cultivated seaweed.
- Increase monthly income for fishermen in up to 46%..
- Generate monthly income for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



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



Our Clients

In Peru



LA SANAHORIA



Harvesting Seaweeds



SEAWEED FACTS



produces
60% O₂
Of the earth



“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



SEAWEED FACTS

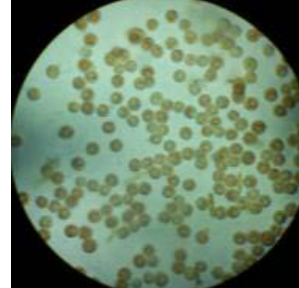
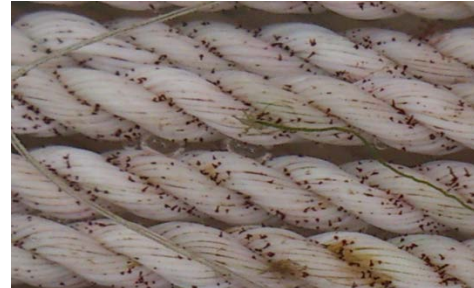


Base of the Food Chain

- 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.

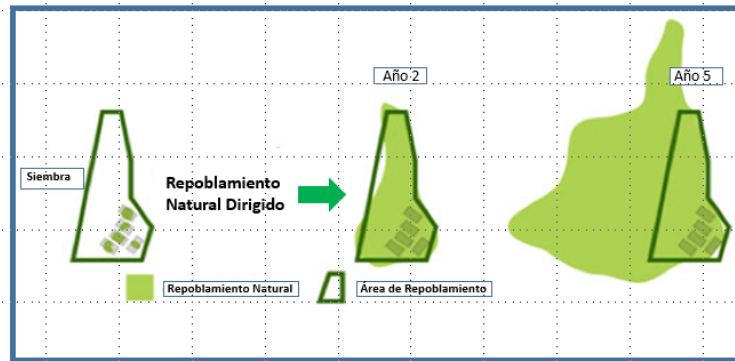
We provide them with a new vision to improve their quality of life.

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 fishermen

20 Ha.
of crops



IMPACT

100
Fishermen





We provide the artisan fishermen with a self-sustainable productive activity through a technology transference model and the repopulation of the species



Hatchery



Seeding



Harvesting





BioPencil

**Invented in Peru
Made in Peru**

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