VISVESVARAYA TECHNOLOGICAL UNIVERSITY - Belgaum

"Design and Fabrication of ROBOTIC OIL SKIMMER using Bluetooth Powered by Solar Energy"

A Dissertation work submitted in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

Submitted by

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RAO BAHADUR Y. MAHABALESWARAPPA ENGINEERING COLLEGE
Formerly VIJAYANAGAR ENGINEERING COLLEGE
(Approved by AICTE, NEW DELHI & Affiliated to VTU)
BELLARY- 583104

2018-2019

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CERTIFICATE

This is to Certified that the project work entitled **"Design and Fabrication of ROBOTIC OIL SKIMMER using Bluetooth Powered by Solar Energy "** carried out by **VISHWANATHA REDDY . P (3VC16ME447)** a bonafide students of **Rao Bahadur Y Mahabaleswarappa Engineering College** in partial fulfillment for the award of **Bachelor of Engineering** in **mechanical Engineering** of the Visveswaraiah Technological University, Belagavi during the year 2018-2019. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

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11-6-19
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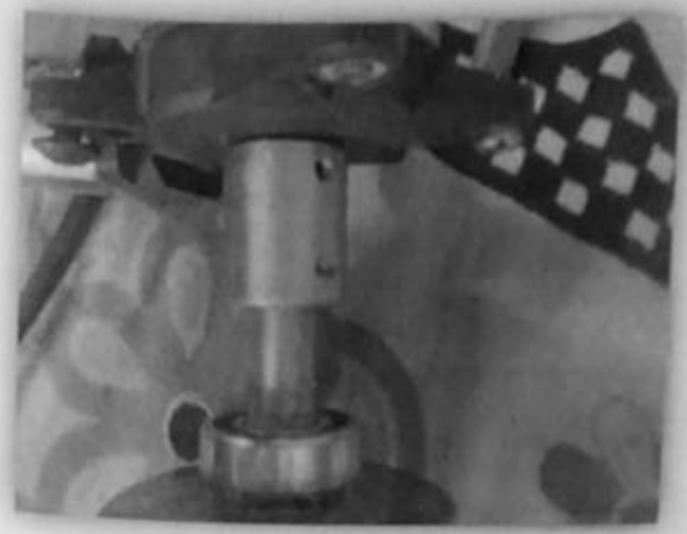
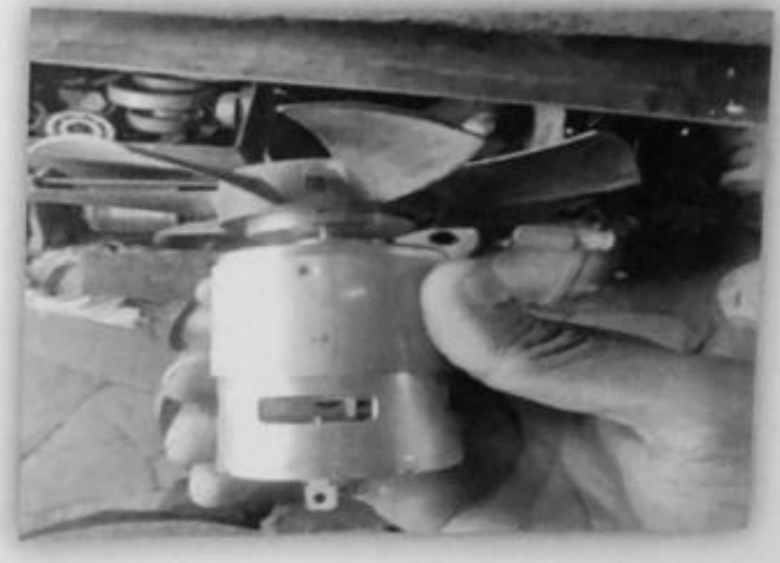
1. ABSTRACT

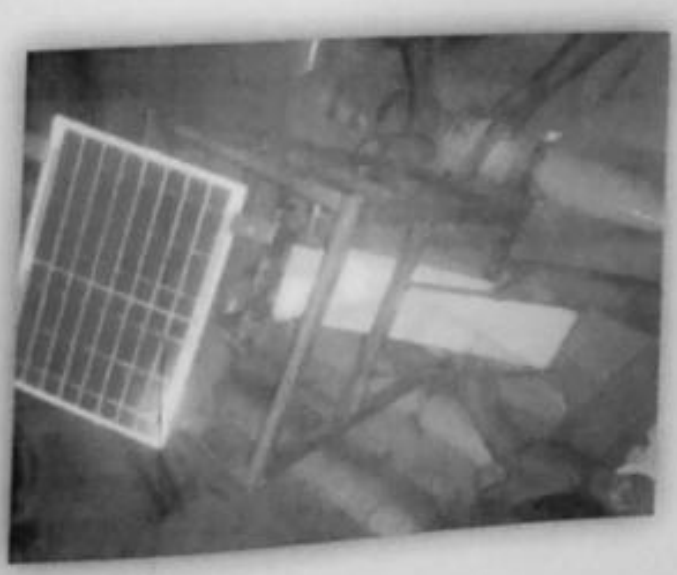
By autonomously navigating the water's surface, Sea swarm proposes a new system for ocean-skimming and oil removal. Sea swarm uses a photovoltaic powered conveyor belt made of a thin nano wire mesh to propel itself and collect oil. The nano material, patented at MIT, can absorb up to 20 times its weight in oil. The flexible conveyor belt softly rolls over the ocean's surface, absorbing oil while deflecting water because of its hydrophobic properties.

Sea swarm is intended to work as a fleet, or "swarm" of vehicles, which communicate their location through GPS and Wi-Fi in order to create an organized system for collection that can work continuously without human support. Sea swarm works by detecting the edge of a spill and moving inward until it has removed the oil from a single site before joining other vehicles that are still cleaning. The fleet uses cutting edge nanotechnology to solve current environmental problems while envisioning long-term solutions for the future With a new design strategy we can revive and preserve the quality of our oceans.

4. PHOTOGRAPHY







12. CONCLUSION

Thus, a small, compact,inexpensive and self-organizing mechanism is suggested to colle and skim away surface oil spills.

About 500 similar machines can clear away the surface oils in a few hours and clean 100%, which took million-dollar investments before to collect 3% oil spill over seve days by olden skimmer system. By using wi-fi or mobile technology, the entire mechani can be automated.

The driving mechanism is based on solar energy so problems related to its fueling can completely omitted and is a renewable source.