



सत्यमेव जयते



The Patent Office, Government Of India

Patent Certificate

(Rule 74 of The Patents Rules)

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01/08/2025

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

It is hereby certified that a patent has been granted to the patentee for an invention entitled *A PORTABLE ELECTRIC PALM SAP CONCENTRATOR* as disclosed in the above mentioned application for the term of 20 years from the 1st day of August 2025 in accordance with the provisions of the Patents Act, 1970.

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Controller of Patents

Note. - The fees for renewal of this patent, if it is to be maintained, will fall / has fallen due on 1st day of August 2027 and on the same day in every year thereafter.

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(57) Abstract:

ABSTRACT A PORTABLE ELECTRIC PALM SAP CONCENTRATOR The present disclosure relates to a portable electric palm sap concentrator (100), configured for installation at the crown of a palm tree to collect and concentrate sap at the source. The concentrator (100) comprises a sap collection system (110) including a spadix holder (111), a funnel (112), and a food-grade flexible pipe (113) connected to a sap inlet port (145). Sap is directed into an inner vessel (130) seated within a double-jacketed outer vessel (120) comprising inner and outer stainless steel walls (121, 122) with an air insulation layer (123) and air inlet holes (124). A double-jacketed lid assembly (140) includes a heater block (151) with an embedded immersion heater (152), a Pt-100 temperature sensor (160), and a stainless steel level sensor (170). A control system (180) with a control box (181) regulates heater operation. Vapour is vented via swan-necked exhaust pipes (146) with mesh covers (147). The concentrated sap is manually retrievable post-processing.