Sourav Dey, class 10, Government High School Barajamda, Jharkhand

Sourav is pursuing a diploma in electrical engineering from KIIT University, Bhubaneswar after which he aims for a B.Tech. His favourite subject is physics.

"I want to become an electrical engineer like my father, who works with the Jharkhand State Electricity Board. My mother, who is a homemaker, is my role model and supports me in everything I do," says Sourav. His sister is pursuing a medical degree from Bhubaneswar.

Lac extraction machine

Sourav Dey, class 10, Government High School Barajamda, Jharkhand

The conventional process for lac extraction is to cut the lac-coated branches of host trees manually, crush and sieve the lac to remove impurities

Sourav has created a machine that peels lac from branches of trees and plants without breaking them. As a result, the amount of impurities is lesser in the extracted lac and it takes lesser effort to clean it.

The machine is attached with a rotator and works on the principle of a sugar cane juice extracting machine.

The idea occurred to Sourav when his father asked him to remove some unwanted grass and plants surrounding their house. While removing the plants, Sourav saw that there was lac (the resinous secretion of lac insects). When he tried removing it by hand, he realized that the lac was running till the roots of the plants. He then thought of a machine that could easily remove lac from plants and trees but did not have a reference.

That is when he spotted a sugarcane juice extracting machine and decided to work on his lac processing machine based on that model. He collected some raw materials— mainly scraps of automobile parts— and started work on his project.