

MY STORY OF SOLAR OVENS

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Abstract: The personal interest historial in solar oven development is described in this short text. From the first contact with the technology to the latest solar oven prototype developed, the author describes its personal experience in this type of technology.

Keywords: Solar oven, cork, cooking

1. INTRODUCTION

One day I read, in the 60's at the Atom, the science and technology magazine, the news of the Missis Telkes experiment, which had cooked a chicken in a solar oven in November in New York. He also stated that the solar oven was a thermal insulated box and had a glass. I was very excited, and I wrote in my pocketbook: make a solar oven. Years went by and I never remembered building a solar oven again. In 1976, an admiral, who only came to know 30 years later that he had been the entrepreneur, with the support of the French embassy, managed to bring an exhibition he had seen in Paris about "alternative energies", which was the name that was given at the time. In the exhibition, which took place at the Rectory of the Classical University, there was an image of the solar oven and much information about the principles and uses of the alternative energies unknown to me, such as the Orgone, the Willelm Reich mantle and organ box. From then on I decided to build a solar oven in wood.

2. THE FIRST PROTOTYPES

My colleague António Gama brought a book from Canada, with the construction of several devices for the use of renewable energies. In the same year, in the carpentry workshops of my school, with that colleague, we built the first wood oven, isolated with black cork agglomerate, with double glass and only with one reflector.

Later, when I went to do the pedagogic stage in Setúbal, I built a solar oven with zinc plate and 4-panel rock insulation, which was replicated by other schools in 1978/79. At the Teatro da Comuna in Lisbon, the CLAC (Clube dos Amigos da Comuna), I developed various activities on Saturdays and among them, me and my colleague António Gama, we taught the construction of solar ovens for children and adults. It was in this context that the first solar fair was held in the Eduardo VII Park in 1997 in Lisbon, during the Book Fair. For the construction of the wood and cork insulated ovens, the participants paid for the materials 350\$00.

3. SOLAR OVEN TEACHING ACTIVITIES

I traveled to various schools, associations, Ponta Delgada Prison, fairs, across the continent and islands teaching the construction of ovens in carton, paper pulp, Styrofoam, and wood. In the meantime I

made several prototypes of demountable ovens for the campers and also parabolic ovens. I participated for some years in the Ecovillage Solar Encounters in Granada, Spain and also in meetings of inventors, demonstrating the solar ovens.

4. SOLAR OVEN PATENT

In 1981 I registered in Portugal, the patent no. 71511 F, for a collapsible solar oven and refrigerator in glass fiber, which once cooked for 22 people. Three copies were offered to Cape Verde by a Non-Governmental Organization, the Soroptimist International, 1ºClube de Lisboa, and 33 were sent to Africa. It was due to the order of these furnaces that I became entrepreneur.

5. SOME CURIOSITIES

- One night, that I was awake, I noticed that the wood oven, used as a refrigerator for night irradiation, reached 7° C inside, while outside were 17°C.

- I remember that more than once in fairs I was asked: “Where do you put the wood, to burn?”

- Another event that happened, was when I taught to build a oven in recycled paper with a cane structure , the owner of the oven, put it to dry inside a Renault 4L. Later when it was opened, inside the canes were all busted, because they were still green.

- On one occasion the host of this meeting, Dr. Celestino Ruivo, left a furnace in recycled paper to cook in the sun, but as it was raining, when his daughter pick it up , the oven bottom and the pan stood stuck to the ground.

-In 2012/13/14 I had on the island of S. Tomé the first surprise with the solar oven in cardboard. The sun shone in the sea and rarely on the island. In a single time it reached only 80°C but after a short time, the Sun disappeared and we were not able to cook.

The TÀ SOL ovens, built in cork agglomerated with the resin, are the best in the world in ecological terms, because it has a small ecological footprint, a small water footprint and the insulation material comes from a tree, the cork oak, which for 150 years, produces cork that is withdrawn every 9 years.