

Outdoor solar oven designed as permanent urban furniture

Summary/Characteristics

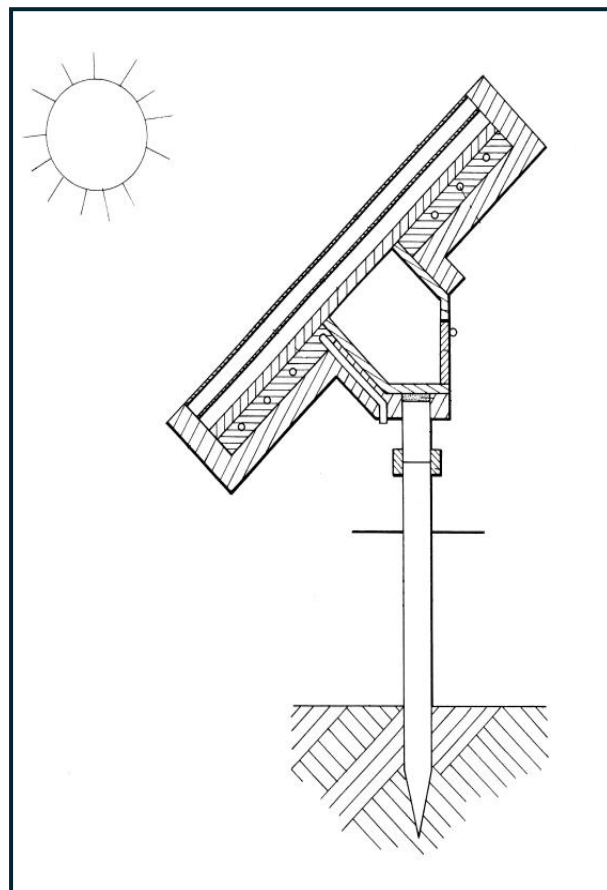
Researchers at Universidad Carlos III de Madrid have patented a new solar oven system that can be installed outdoors for cooking, heating, or sterilizing, and used in disadvantaged areas in developing countries. It is a fully passive system that consumes no energy, uses no fluids, and can be permanently left outdoors.

It can incorporate thermal energy storage for use under low or no solar radiation conditions.

An industrial partner is sought for further development and eventual commercialization.

Innovative Aspects

- Integration of solar collection, thermal storage, and oven in a robust unit.
- Suitable for both private and public spaces, and can remain outdoors permanently.
- Can use high thermal storage materials (e.g. phase change materials), extending its operation during cloudy or sunless periods.
- Built using easily accessible, low-cost materials and techniques.
- Does not use solar concentration systems.



Schematic representation of the solar oven

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Competitive Advantages

- Reaches temperatures below 100 °C.
- Independent from electrical supply.
- Long service life and low maintenance.
- Sustainable: no emissions, noise, or waste.
- Once installed, it is immediately available for use.

Technology readiness level:

Proof of concept. TRL 3.

Intellectual and Industrial Property Status:

Granted Spanish patent. Title: "Horno solar".

Type of collaboration sought:

Partners are sought for Investment Agreements, Commercial Agreements with technical assistance, development cooperation agreements, and potential licensees for manufacturing and commercialization.