

DESCRIPTION OF NEW SOLAR COOKER SYSTEM -2027

First of its kind, Hybrid Combination Product of a Parabolic Solar Cooker, Camping Grill Over Open Fire on the Ground and Adjustable Position Fuel Canister Under a Grill, Plus Provides Means for Water Desalination of Salt Water into a Continuous Flow of Fresh Drinking Water.

This product builds on proven parabolic solar-cooker principles and construction methods developed between 1767 and 2026. It meets practical cooking needs while delivering value to suppliers and users. Our Key Innovations include spiral hinges for solar mirrors, a center plate that preserves the mirror configuration, a magnetic system that secures cookware, quick setup and takedown, and compact storage. Despite its versatility, the product remains lightweight, compact, and easy to carry.

The Problem—Solar cookers depend on direct sunlight, limiting cooking and desalination of water if conditions are at night (no sun rays), cloudy sky-lack of blue sky and in poor weather.

Existing tube, box, and parabolic solar cookers may be costly, fragile, difficult to transport, store, or assemble, and effective only during brief periods of strong sunlight. Improper use may also cause fires or injury from concentrated solar radiation to people, animals, structures, or land.

Additional Problems/Pain Points-Safe drinking water is scarce, affecting about 40% of the world's population. Existing desalination water systems may be costly, slow, heavy, electricity-dependent, disposable, or physically demanding, making them impractical in emergencies.

Most solar cookers limit cookware size, while larger box models are bulky and difficult to move.

Our Solution: Our portable system uses solar energy, fuel, or both for year-round cooking and water desalination, creating a cooking means in day or night conditions all year.

The system combines a tested parabolic solar cooker with a fuel-burning canister attached to the frame. It can run on solar heat, fuels such as propane, butane, or wood, or both heat sources together for higher temperatures and longer cooking times. The result is a dependable, lightweight, and inexpensive device.

Adjustable magnets on the center rail secure cookware and accommodate different pan and tray sizes.

The system also includes a self-contained silicone desalination unit that withstands temperatures up to 500°F. It boils salt water into steam, cools the steam, and collects the condensate as fresh water. The unit is easy to refill, drain, and be cleaned. Its small, lightweight, and inexpensive design allows it to operate with or without the solar cooker, but requires a source of heat.

For easier storage and transport, the parabolic mirror panels fold into a compact space. Earlier designs relied on welded or riveted hinges, which increased cost, assembly time, and the number

of parts. Our design instead uses holes along the panel edges and extension springs that function as hinges, allowing the cooker to fold rather than remain permanently bolted or welded together.

Foldable parabolic mirror panels must retain the proper shape during use. Earlier designs used hardware at the top of the panels to maintain the required angles. Our design replaces that hardware with a reflective disc mounted at the panels' inner base, keeping them aligned at fixed angles.

Variation—Previous attempts to combine solar cooking with 12-volt electrical devices have not produced an economical solution for widespread use. Challenges include heavy batteries, limited battery life and recharging requirements, the added cost of electrical components, and the limitations of plug-in units.



BBQ Grill Stand Over Open Fire on Ground-Legs Fold Under Grill, making compact size.



Parabolic Solar Cooker Utilizing BBQ Frame when turned upside down, small, compact, and light.



BBQ Frame/Magnetic Position Fuel Canister



Side View Solar Cooker Tilted Adjustable Angle



BBQ Frame & Mirrors in Storage Position



Baking Sheet on Parabolic Solar Cooker

Please review SUNplicity website, Alian Bivas of France is the inventor who has won solar design awards for his invention and marketing. <https://solarcooking.fandom.com/wiki/SUNplicity> Our product has enhanced its basic design with additional features and benefits at a much lower cost and includes a product for a water desalination system with a Provisional Patent on file.

Water Desalination System, Turning Salt Water into Continuous Fresh Drinking Water

