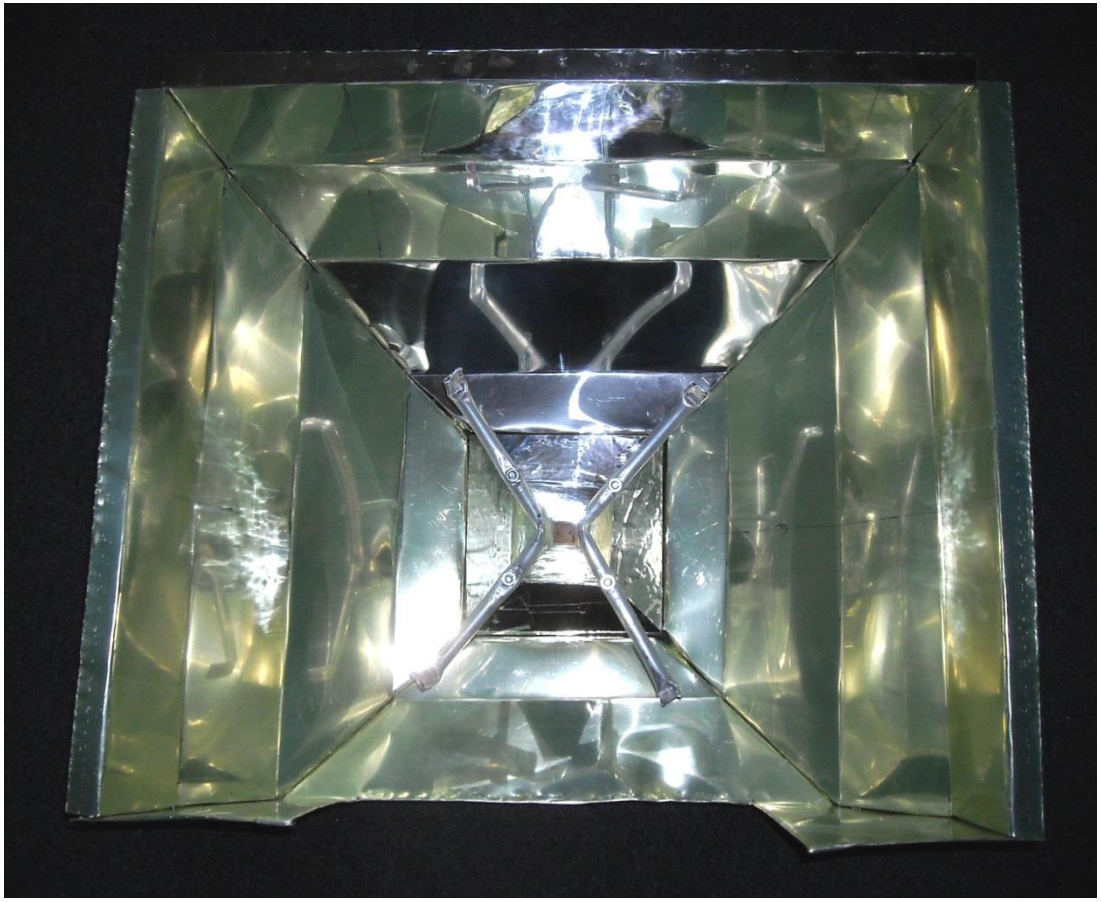


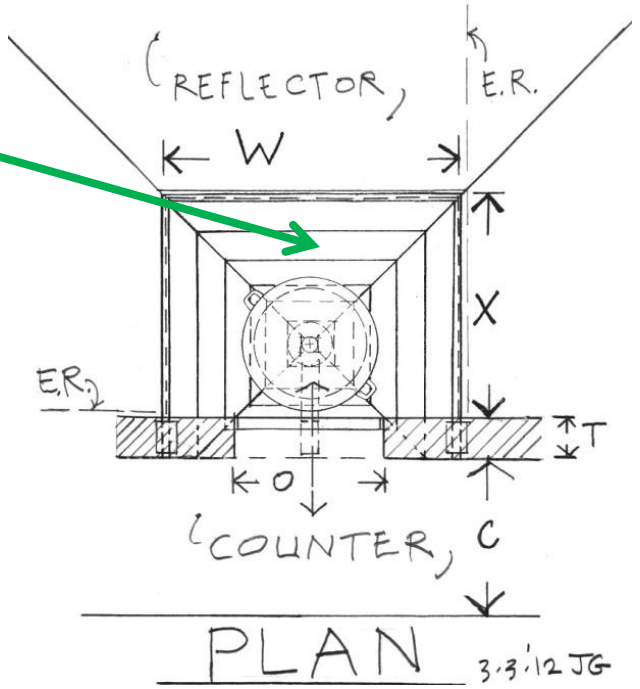
Full size mock-up models of aluminum reflector and pyramid reflector base with four posts supporting bent tubes with upturned edges to prevent cooker-pot from sliding off.

Thru-wall fixed concentrator prototype during fabrication with lightweight aluminum reflector sheet (about 0.020 inch thick, or less). Tools include: scissor, pliers, and clamps. After cutting out patterns, and bending, quadrants are clamped together and bolted.

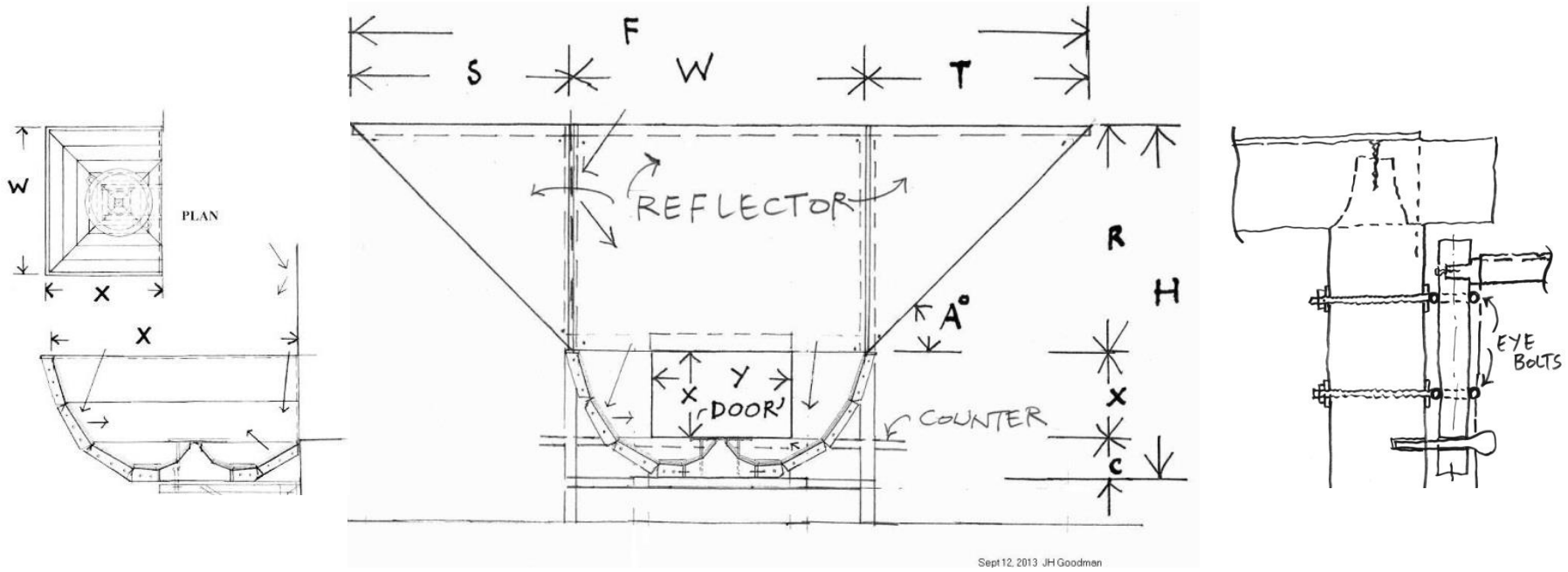
A stand-alone version without a thru-wall opening is for outside cooking by day, and inside a light LED reflector at nite.

A thin metal stamping workshop could cut out the patterned elements and punch holes from flat sheets. The flat lightweight aluminum sheets could be transported to local workshops for assembly (bending, pop rivets, etc.) and distribution, and creation of local jobs.

JH Goodman Sept 27-2013



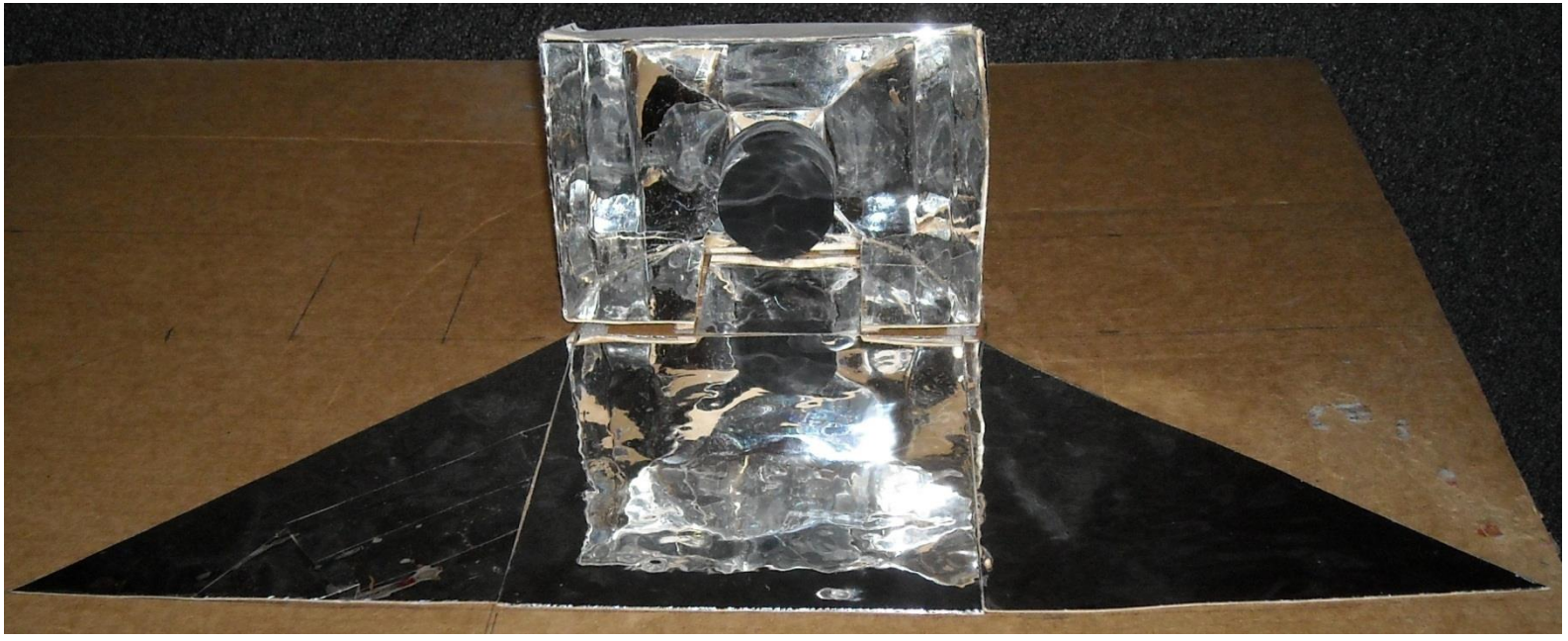
A thru-wall fixed nonimaging (NI) reflector concentrator for ovens, cookers, autoclaves, etc. may be a lightweight for the most part attachment to a house or trailer wall. A NI 'box' has four creased aluminum-reflector elements attached together, secured to a square based two-angles pyramid-reflector(with grill posts) supported on a bracket(s) structured to the wall. Augmentation is with fixed reflectors attached to the wall, and E and W repositioned reflectors at noon with wind fail-safe design. JH Goodman 9-9-2013

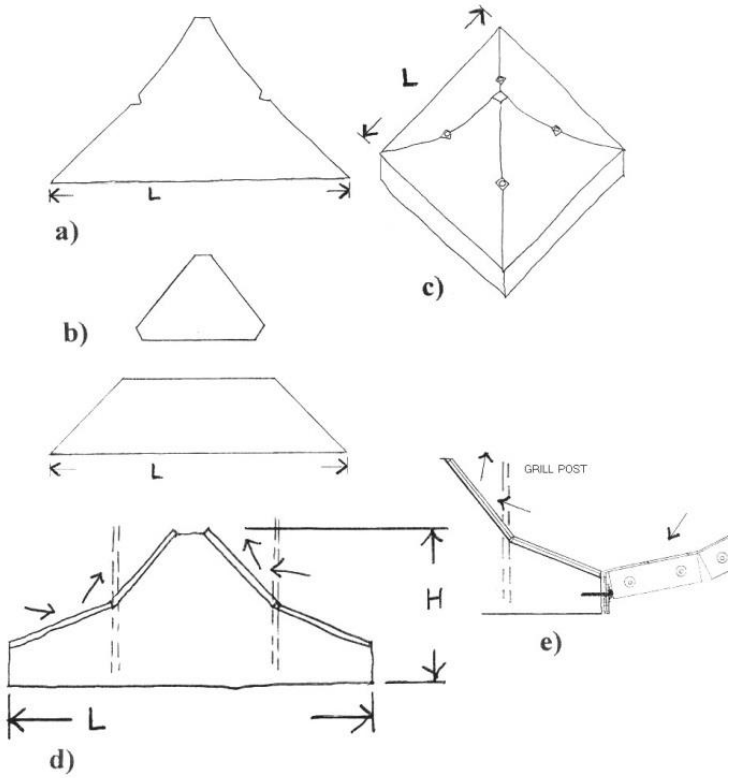


A **thru wall fixed concentrator prototype** has a nonimaging reflector box made of sheet aluminum reflector and a center reflector base pyramid with grill posts adjacent to a reflector ‘wall’ structured with a minimum frame with wind fail-safe attached reflector fabric. A alternative has rectangular fabric reflectors rotated with eye bolts by hand at noon (and other times) that are both at times part of the ‘wall’ reflector, and the E and W end reflectors.

JH Goodman 9-13-2013

Thru wall fixed nonimaging concentrator sketch model photos

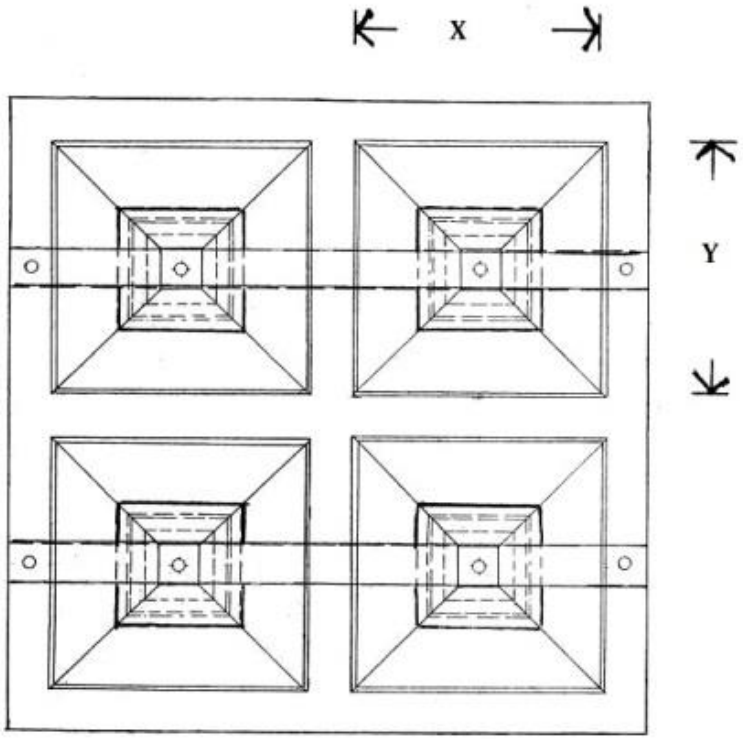




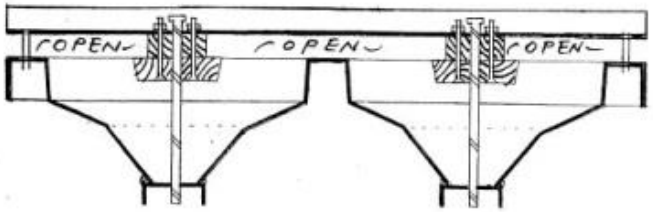
Thru-wall fixed nonimaging (NI) reflector concentrator

Reflector substrate pyramid shape prototypes (about 6x6” square base and 3.5 inch height) have been cast with concrete with grill posts (bolts) cast in; and pyramid shapes may be cut out of very dry wood, or made of recycled materials. A two-angles pyramid has two flat reflector shapes (b). Flat glass mirrors glued to concrete pyramids require laminated glass mirrors because of the damaging ion exchange. Beginning design inputs include: target(s) (ovens, cookers, autoclaves, etc.); and wall types.

JH Goodman



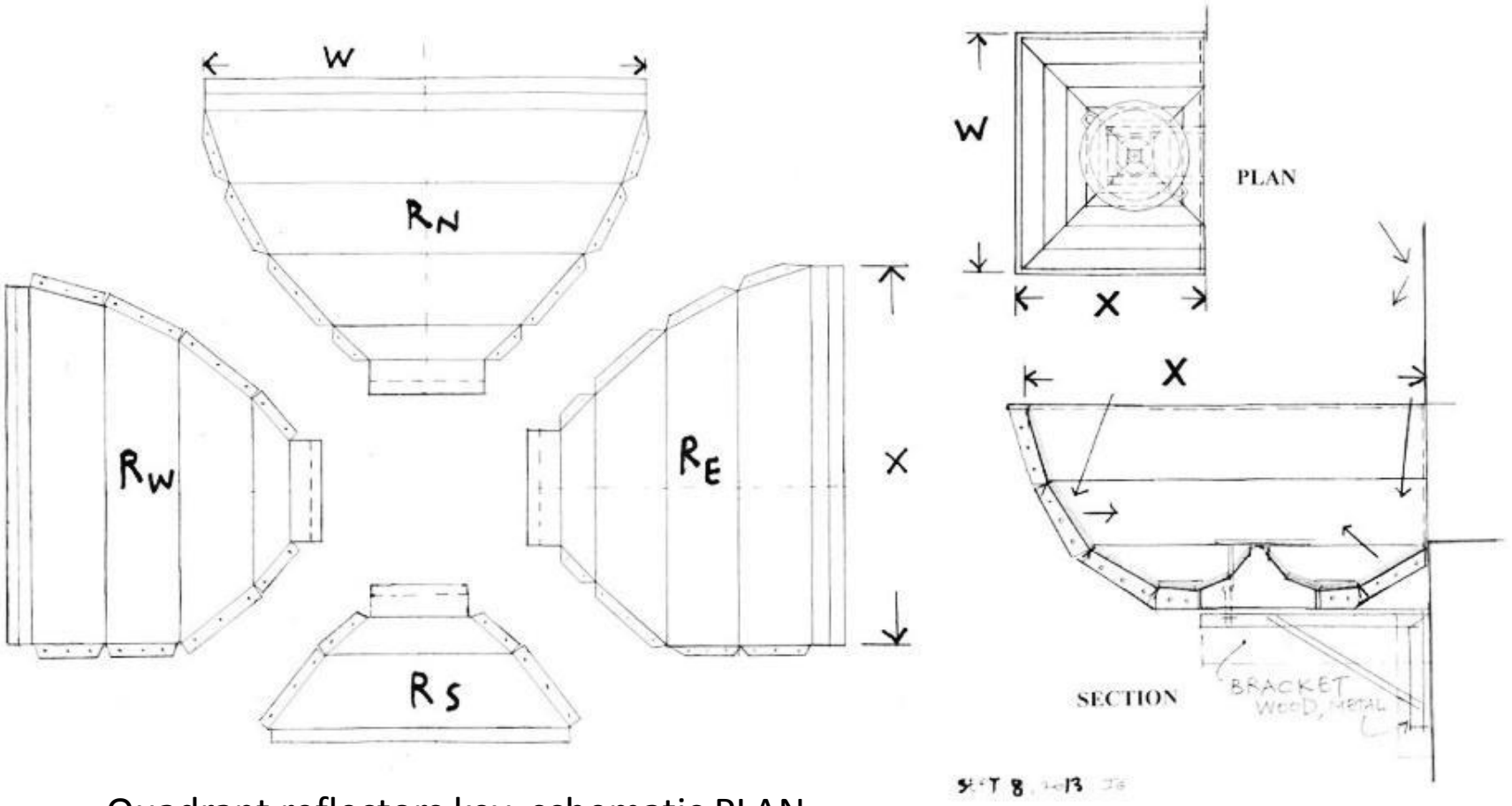
PLAN



SECTION

April 20-2010 JHG

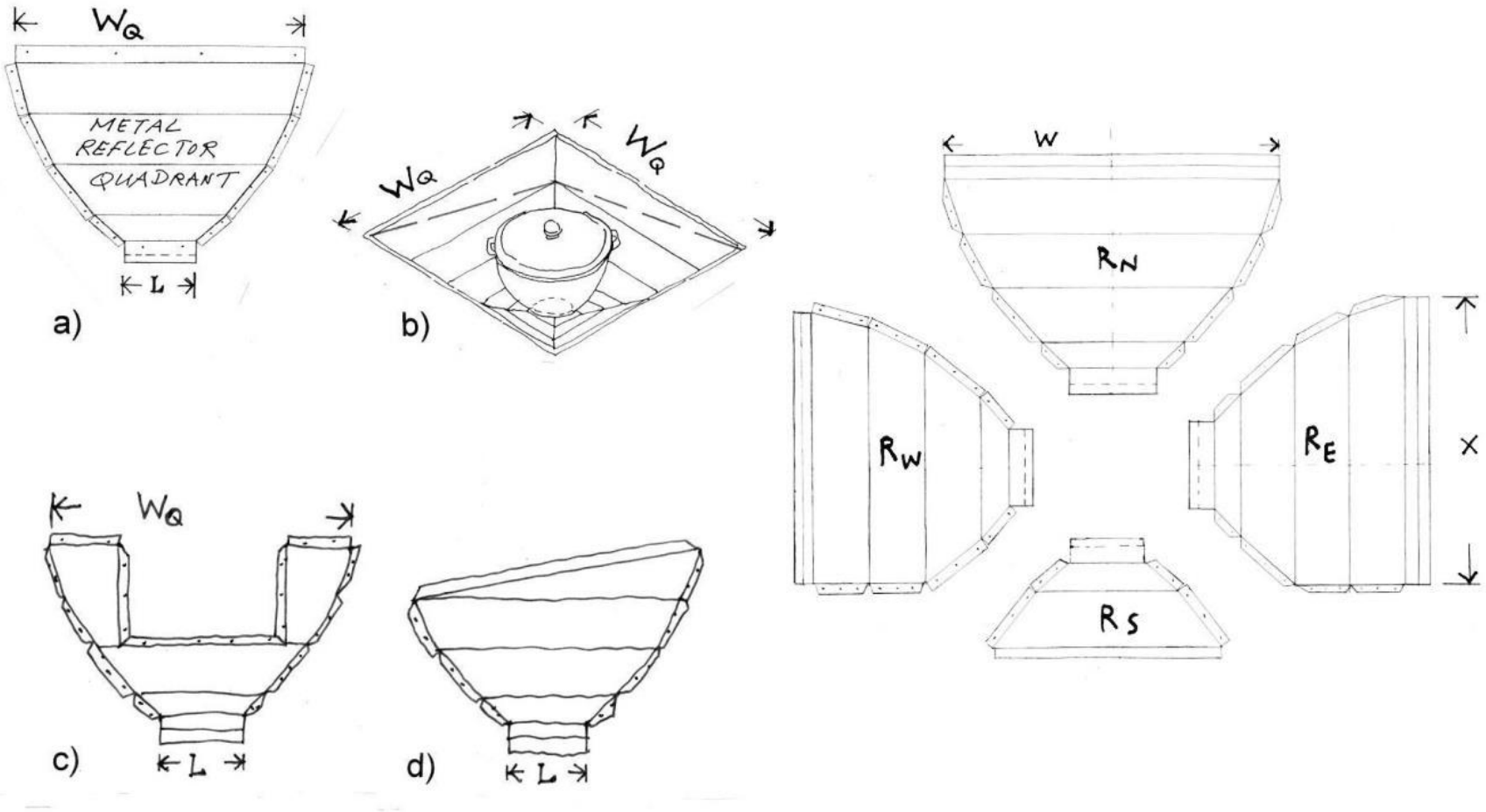
Multiple forms for casting four pyramid bases at one time.



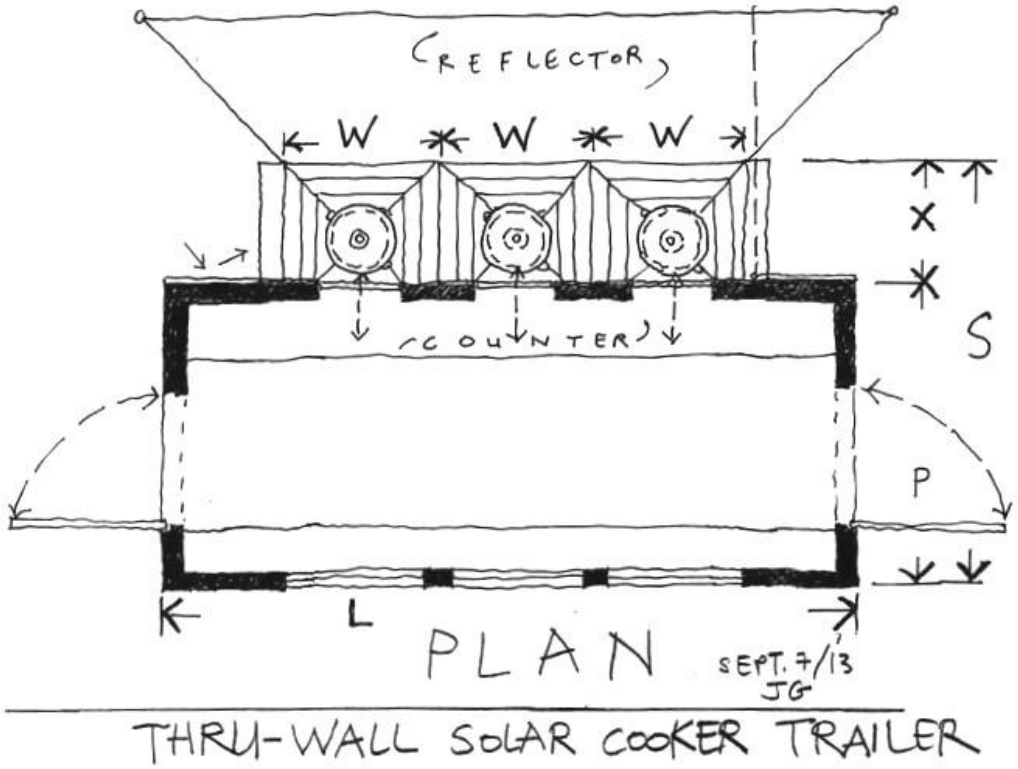
Quadrant reflectors key schematic PLAN

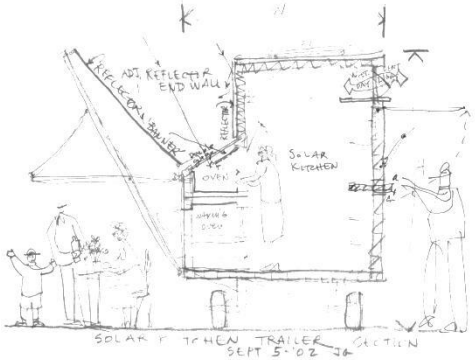
Thru-wall fixed nonimaging (NI) reflector concentrator

A main quadrant reflector pattern is similar for all four quadrants of the NI concentrator box. A full quadrant reflector Rn is away from the wall, E and W quadrants (Rw and Re) are cut-off at the wall, and the smallest quadrant Rs is attached to the wall under the door opening to the kitchen. JH Goodman 9-9-2013



The nonimaging concentrator reflector ‘box’ has a standard quadrant shape (a) with variations which include: Rw and Re; door opening c); and sloped top left and right edge d).





Thru-wall fixed trough nonimaging concentrator solar cooker-kitchen-autoclave transportable core

JH Goodman Sept 10-2013