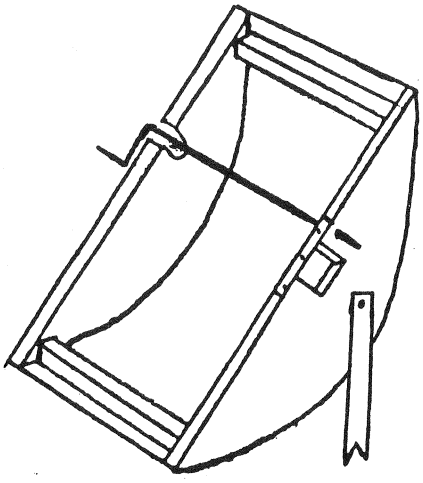
SOLAR HOT DOG COOKER

CENTRAL
MIDDLE SCHOOL
HARTFORD, WI.

TECHNOLOGY
EDUCATION DEPT.

TECHNOLOGY EDUCATION
SOLAR COOKER

Parabolic Collector



Introduction

The sun is a very valuable resource. By converting energy from the sun, we can create power which can be converted into electricity, heat, light and many other things. Generally, we have to convert energy from the sun. A solar collector is one method to convert this energy.

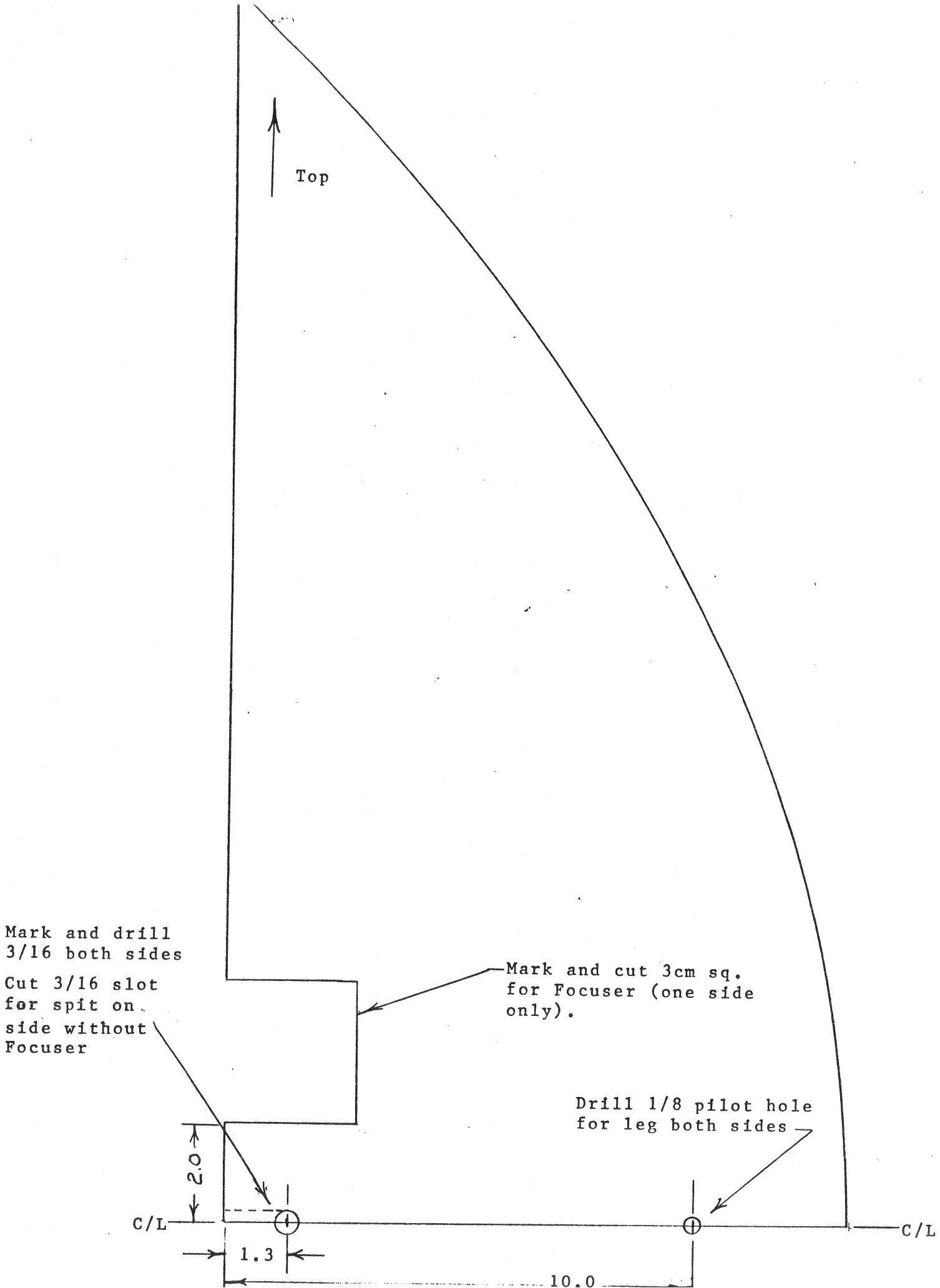
There are many types of solar collectors. For this project we will be dealing with a parabolic collector. A parabolic collector takes the energy from the sun and multiplies it. The parabolic dish multiplies the energy by reflecting the rays from the sun to a center point. At the center point, the rays are either used or transferred in some manner. We will use the energy created to cook a gourmet hot dog.

Materials

2 - 1.2 x 13.2 x 50.9	Plywood - sides
2 - 1.2 x 3 x 23 ...	Pine - Legs
2 - 2 x 2 x 23	Pine - Spreaders
1 - 25.5 x 60	Tin plate 28 ga. - Reflector
1 - 1.2 x 5	Tin plate 28 ga. - Focuser
1 - .3 x 40	Aluminum - Skewer
2 - 1" No. 7 R.H.W.S.	For the legs
7/8 - 18 ga. wire nails	- For Tin plate
4d - Box nails	- For spreader

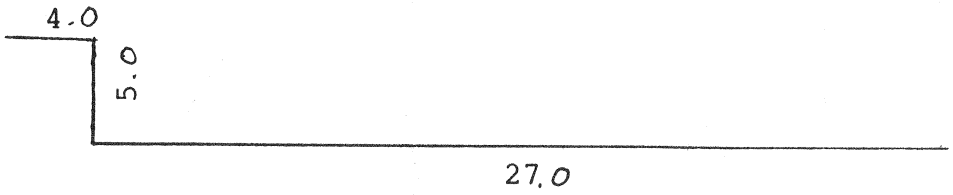
Procedure

1. Obtain plywood for sides.
2. Use the pattern to layout sides.
3. Cut sides to shape.
4. Use the pattern to mark 3cm square for focuser. ONLY ON ONE OF THE SIDES.
5. Mark and drill 7/64" pilot hole for legs.
6. Mark and drill 3/16" hole for skewer.
7. On the side opposite of the focuser, cut a slot down to the 3/16" hole.
8. Obtain tin plate for the back.
9. Cut tin plate to 25.5 cm x 60 cm.
10. Bend .6 cm. hem on each end of tin plate.
11. Obtain the softwood for legs.
12. Cut to length on miter box saw.
13. Mark one end to make the 90° angle. Use the end of the steel ruler to mark the angled notch.
14. Cut the 90° angle on the jigsaw.
15. Drill 3/16" hole for screw.

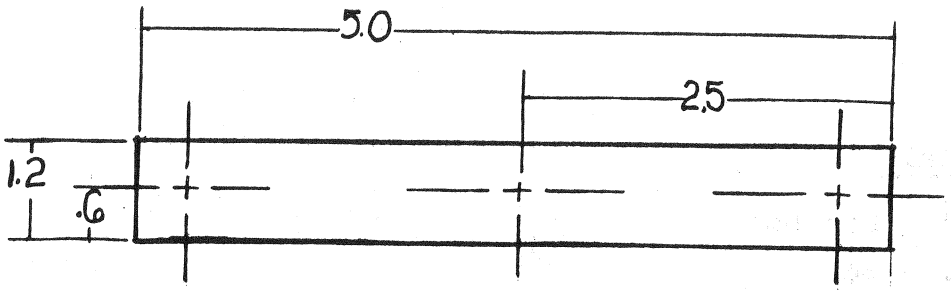

Top
Mark and drill
3/16 both sides
Cut 3/16 slot
for spit on
side without
Focuser
Mark and cut 3cm sq.
for Focuser (one side
only).
Drill 1/8 pilot hole
for leg both sides
2.0
C/L
C/L
1.3
10.0

Procedure - Continued

16. Obtain tin plate for focuser. Cut to size. Mark pin holes before assembling.
17. Use box nails and assemble sides and spreaders.
18. Carefully attach reflector to sides. Start at center and work toward the ends. Keep alligned.
19. Attach focuser.
20. File point on one end of skewer, then bend as shown.

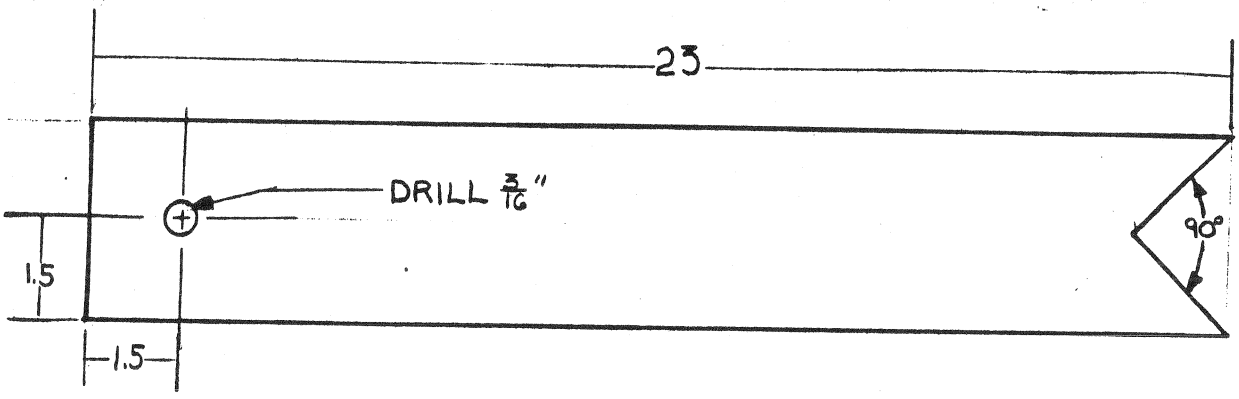


FOCUSER DETAIL



USE AWL TO PUNCH 3 TINY 1MM HOLES AS SHOWN

THE LEG IS 1.4cm PINE



THE GOURMET RECIPE FOR: A SOLAR COOKED HOT DOG

Materials

1 - Hot Dog

1 - Bun

Ketchup, mustard, and relish to taste

Procedure

1. Pierce hot dog through with your precision made skewer.
2. Adjust focuser so the sun is directly on your gourmet hot dog.
3. Rotate your hot dog every minute.
4. After 5-7 minutes, prepare a bun with your favorite condiments.
5. Delicately take your hot dog off the skewer, placing it on your bun.
6. Smile as you eat your first solar cooked hot dog.
7. Thank your instructor.