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(54) **SUNSHINE TRACKER**

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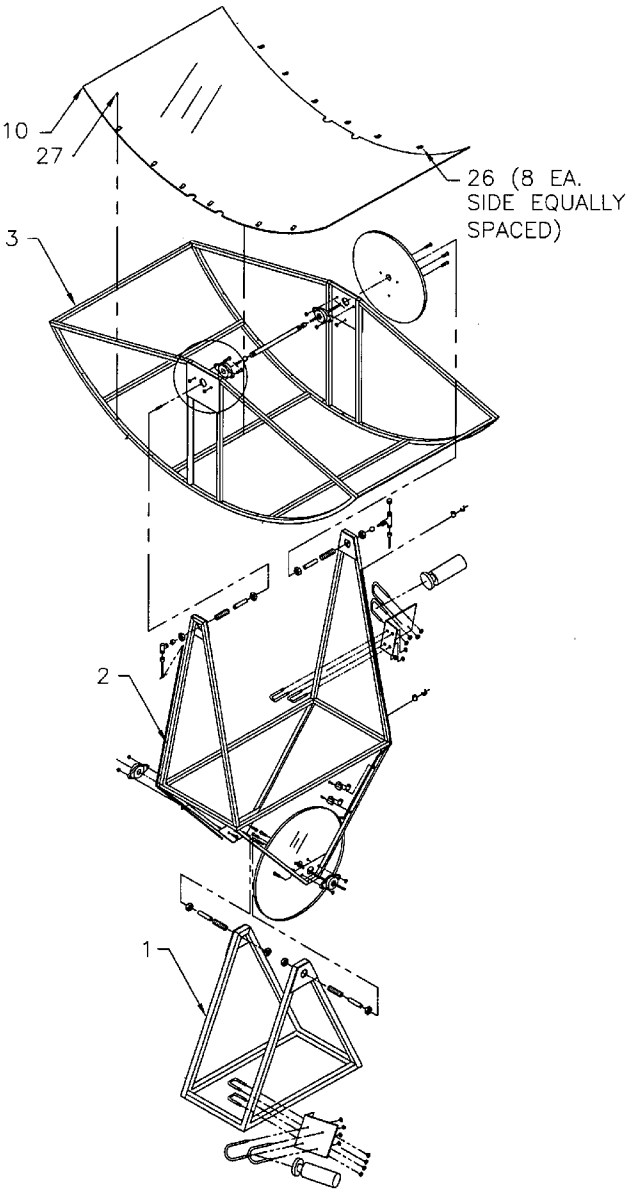
(57) **ABSTRACT**

A machine for tracking the sun's movement and concentrating sunlight consists of a main Frame which pivots in the north and south direction on a base having conduit for a heat medium (a liquid usually of the Glycol family the Main Rrame supports the Mirror Frame that pivots 360 degrees East to West allowing the mirror to focus the sunlight onto the conduit heating the liquid medium producing a very high and concentrated amount of heat during the entire day-light period and can be used for a small business or residential heating. An optional prism can be attached to the mirror frame to focus sun rays onto the conduit for added heat.



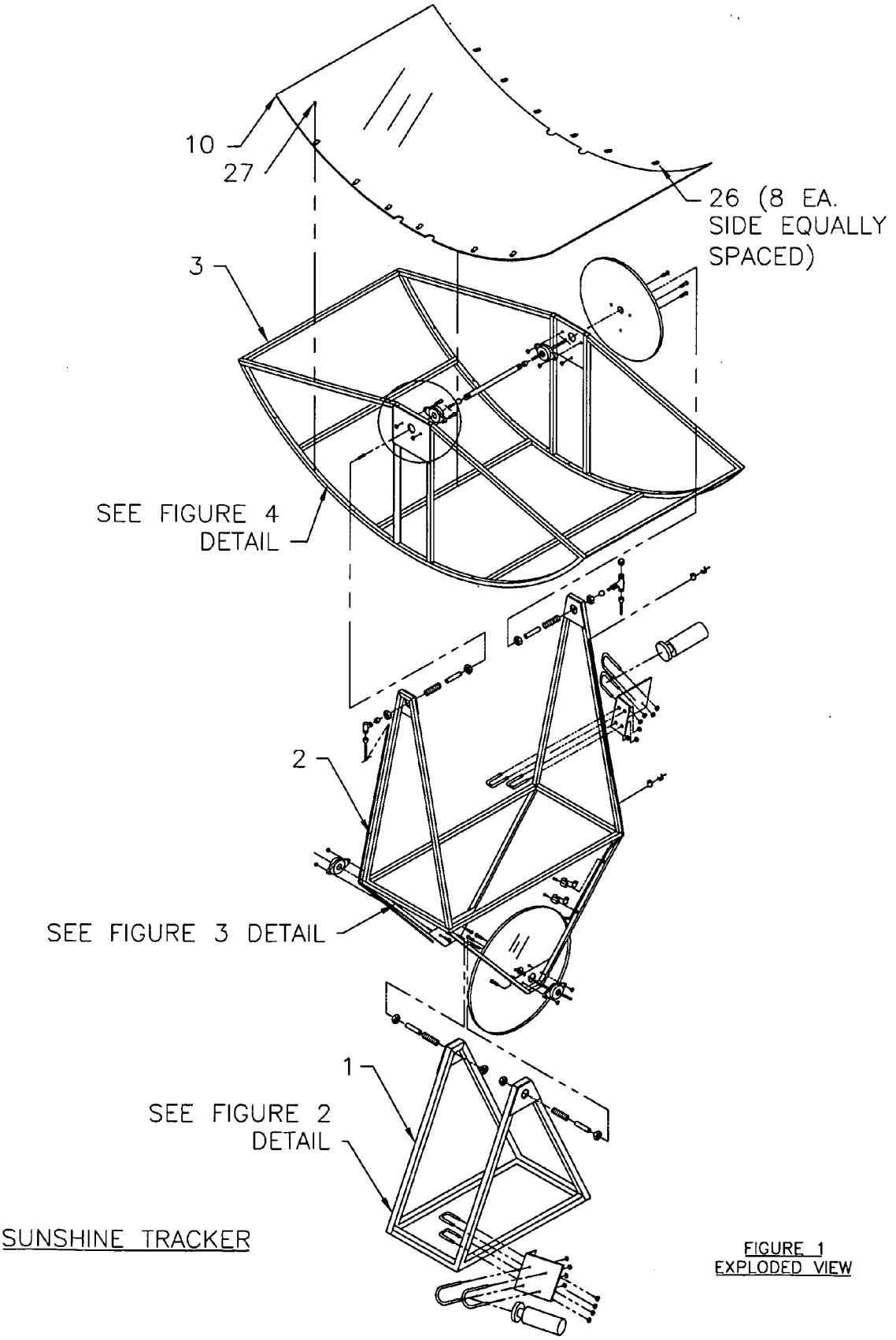
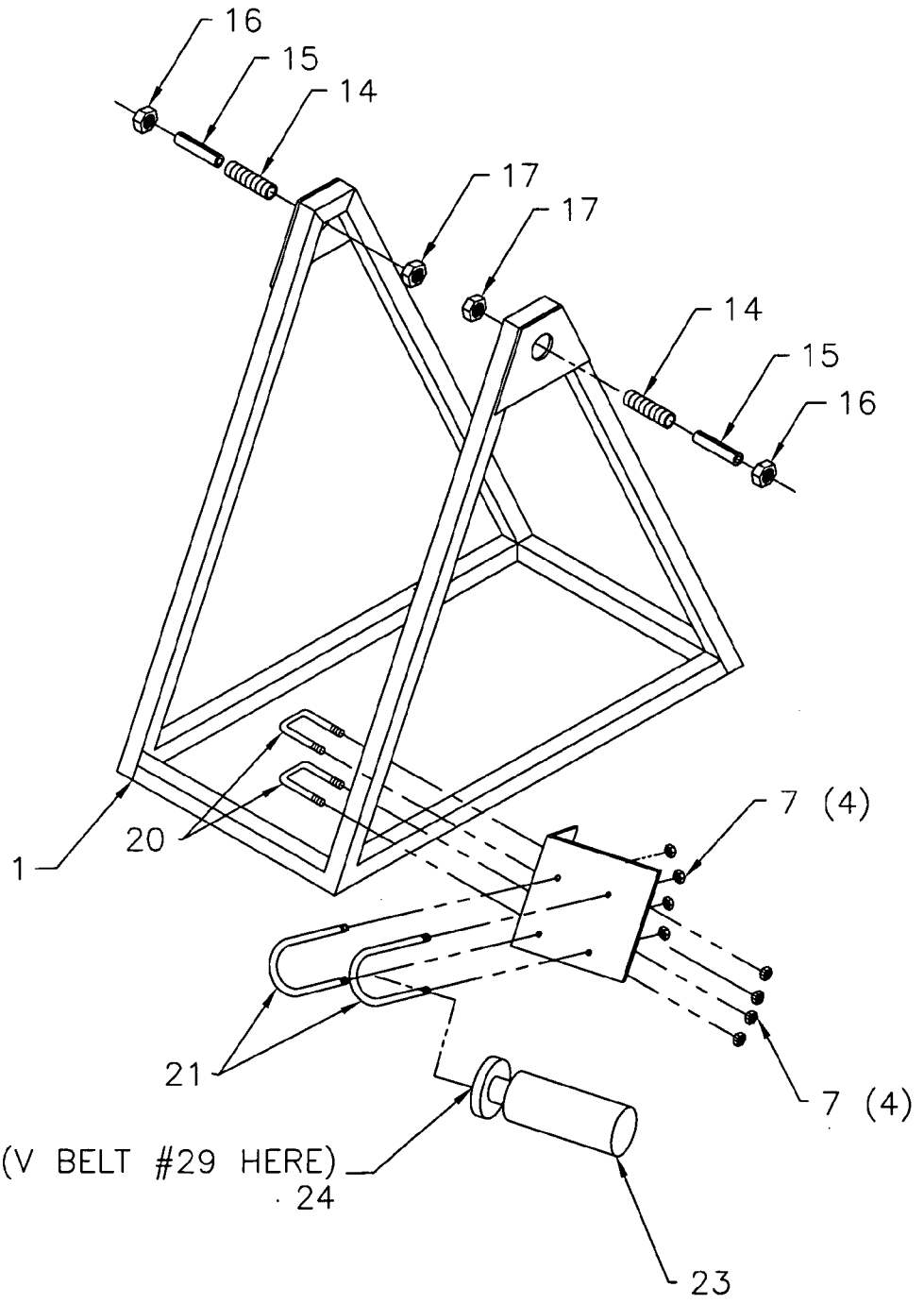
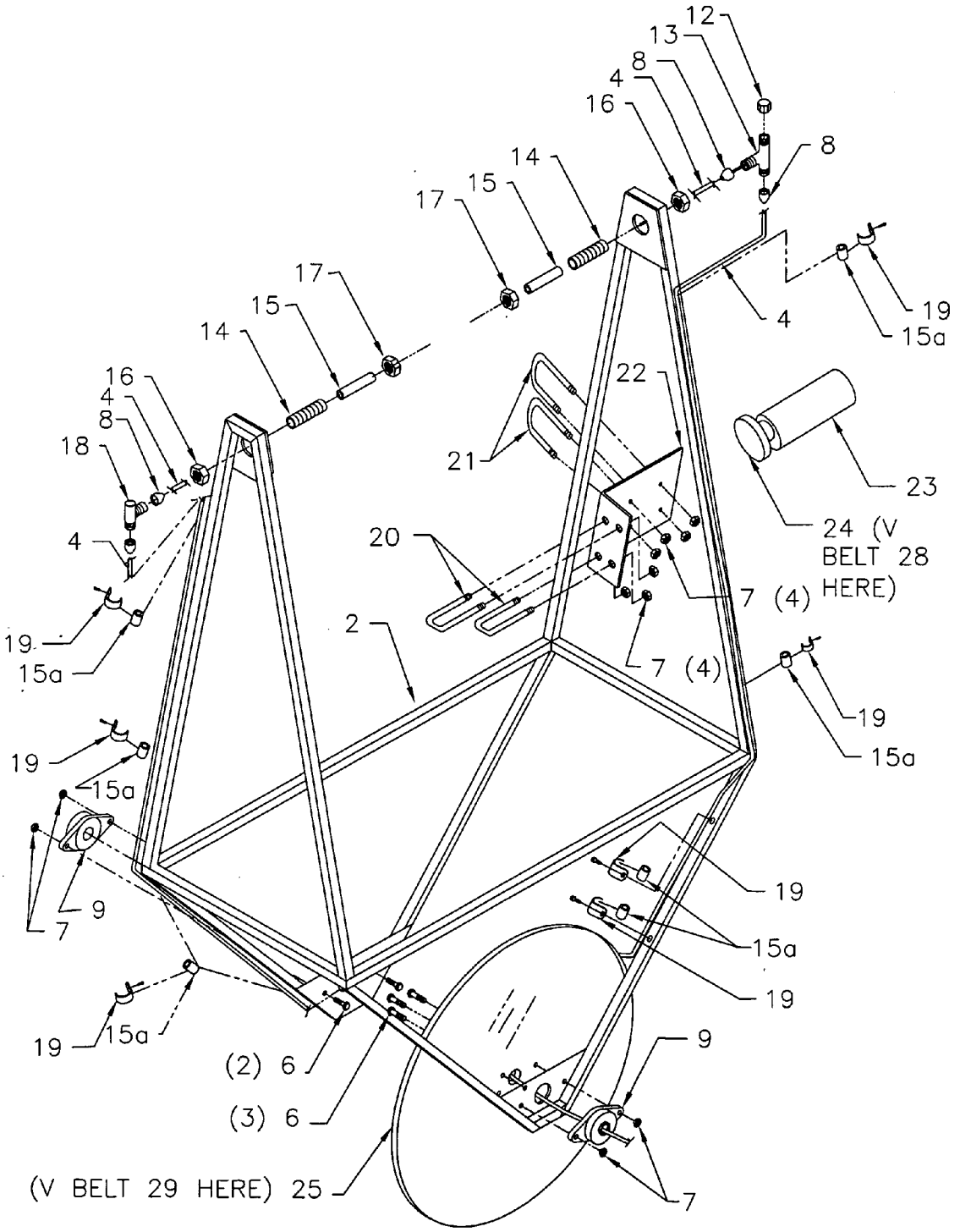


FIGURE 1
EXPLODED VIEW



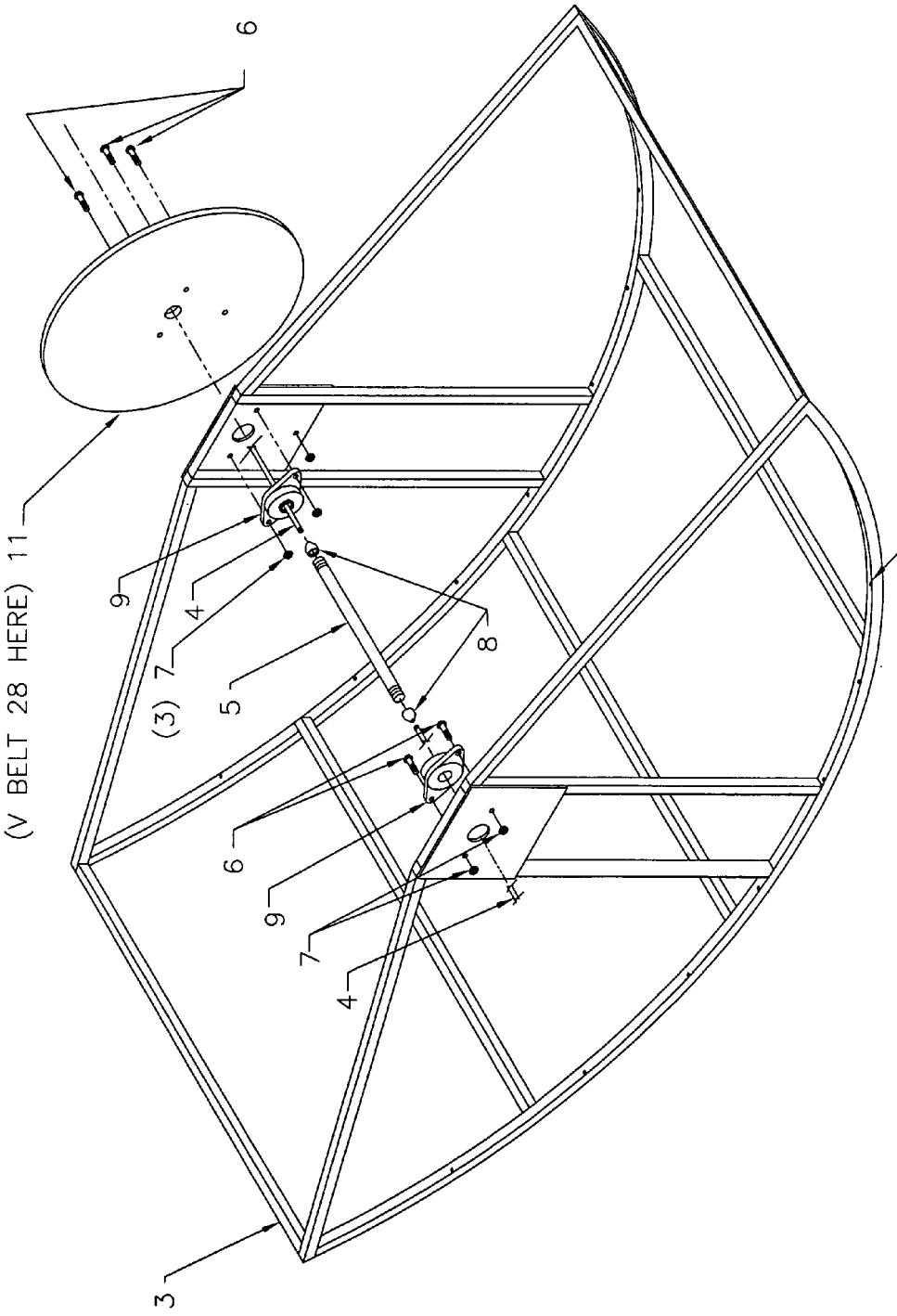
SUNSHINE TRACKER

FIGURE 2



SUNSHINE TRACKER

FIGURE 3



SUNSHINE TRACKER

FIGURE. 4

SUNSHINE TRACKER

OPERATION—CLAIMS

[0001] The Sunshine Tracker is a miniaturization of the giants used by utility companies in large fields and is meant to be used by individuals in homes or small business!

[0002] The Sunshine Tracker, with its twelve-volt motors, is capable to follow the sun from sunrise to sunset. The moveable mirror, capable of 360° in its torrent, keeps the sun focused on the receiving tube. The mainframe tilts from North to South, keeping the sun in full focus during the changing seasons.

[0003] The tubing and receiver may contain glycol, mineral oil, petroleum oil, or any medium not affected by the weather.

[0004] The medium oil contained in the tubing system may be (350°) transferred by pump to any other system for practical use, such as water heater, producer of steam, etc.

[0005] All the sunshine sensing and relay energizing is accomplished by use of red rock component (led 3×).

Trough

Sunshine Concentrator Partial History

[0006] In the late 1800's a group of solar energy enthusiasts, with their solar equipment traveled to North Africa and the Sahara Desert. There they set up their equipment in the clear, dry desert air! With their troughs installed they discovered since they were not movable in sync with the sun, the troughs were only efficient for part of the day!

[0007] The huge fields of troughs employed by utility companies today move with the sun only from east to west.

[0008] By not changing direction with season change, today's troughs are not highly efficient.

[0009] The Sunshine Tracker solves the partial problem of season change, therefore is more efficient.

DRAWINGS AND FIGURES

[0010] The drawings constitute a part of this specification and include exemplary embodiments to the invention, which may be embodied in various forms. It is to be understood that in some instances various aspects of the invention may be shown exaggerated or enlarged to facilitate an understanding of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. **1** is a perspective view of the exploded invention.

[0012] FIG. **2** is a detailed perspective view of the exploded base.

[0013] FIG. **3** is a detailed perspective view of the exploded main frame.

[0014] FIG. **4** is a detailed perspective view of the exploded mirror frame.

[0015] Page 1 is the plan view of the assembled invention showing front and side views with details 'A', 'B', and 'C'.

REFERENCE NUMBERS IN DRAWING

[0016] **1**. COLLECTOR BASE
[0017] **2**. COLLECTOR MAIN FRAME
[0018] **3**. COLLECTOR MIRROR FRAME
[0019] **4**. ⅜" COPPER<TUBING
[0020] **5**. 1" STAINLESS TUBING (29")
[0021] **6**. 1½"×½" BOLT
[0022] **7**. ½" NUT
[0023] **8**. ⅜" FLARE NUT WITH COMPRESSION RING (6)
[0024] **9**. BEARING & HOUSING (8)
[0025] **10**. 4'×8'×¼" TEDLAR SURFACED OR POLISHED STAINLESS MIRROR
[0026] **11**. 24" PULLEY (1)
[0027] **12**. ⅜" FEMALE PIPE CAP (1)
[0028] **13**. ⅜" FLARE TO FLARE TO FLARE TEE (1)
[0029] **14**. 1⅛" OD×⅞" ID×4" TREADED NIPPLE (4)
[0030] **15**. ¾" OD×⅜" ID×4" INSULATION (8)
[0031] **15***a*. ¾" OD×⅜" ID×1.25" INSULATION (8)
[0032] **16**. 1⅛" NUT (8)
[0033] **17**. 1⅛" LOCK NUT (8)
[0034] **18**. ⅜" ALL-TUBE ELBOW WITH COMPRESSION RINGS
[0035] **19**. ¾" EMT CLAMP WITH SCREW (90° BEND STRAIGHTENED) (8)
[0036] **20**. U BOLT ½×1¾×2½ (4)
[0037] **21**. U BOLT ½×4½×6 (4)
[0038] **22**. MOTOR MOUNTING PLATE (2)
[0039] **23**. 12V 20 AMP MOTOR (2)
[0040] **24**. 3" PULLEY (2)
[0041] **25**. 30" PULLEY (1)
[0042] **26**. ¼" STEEL OFFSET MIRROR HOLDER (16)
[0043] **27**. ⅛×½" SCREW (16)
[0044] **28**. 150" V BELT
[0045] **29**. 170" V BELT

1. A device for collecting solar energy from solar rays comprising:

a heating conduit for heating a fluid, the heating conduit adapted to receive solar rays reflected from a reflective surface, the heating conduit having an entrance end and an exit end, the entrance end of the heating conduit allowing the fluid to enter the heating conduit, the exit end of the heating conduit allowing the fluid to exit the heating conduit;

a supply conduit attached to said heating conduit, the supply conduit adapted to transfer the fluid toward the heating conduit, the supply conduit adapted to transfer the fluid away from the heating conduit;

a reflective surface; adapted to reflect solar rays towards the heating conduit, said reflective surface adjustable on a first axis and a second axis, said reflective surface adapted to adjust in relation to said heating conduit; and

an adjustment body adapted to pivot on a single axis, said supply conduit adapted to pivot with said adjustment body: said reflective surface pivotally connected to said adjustment body wherein the pivotal connection of the reflective surface to said adjustment body allows adjustment of the reflective surface on the first axis, wherein pivoting of the adjustment body allows adjustment of the reflective surface on the second axis.

2. The device of claim **1**, wherein said reflective surface is capable of adjustment of at least 180 degrees on the first axis.

3. The device of claim **1** wherein the adjustment body is capable of adjustment of at least 180 degrees on the second axis.

4. The device of claim **1** wherein the supply conduit remains fixed in relation to said adjustment body.

5. The device of claim **1** provides adjustment of the reflective surface to heat the fluid to a temperature of at least 350 degrees F.

6. The device of claim **1** wherein the supply conduit is fixedly attached to said heating conduit such that heating conduit remains in a fixed position during pivoting of said reflective surface.

7. The device of claim **1** wherein the reflective surface is a concave mirror.

8. The device of claim **1** further comprising:

an exchange conduit pivotally attached to said supply conduit, said exchange conduit adapted to allow said supply conduit pivot with said adjustment body, said exchange conduit adapted to allow the fluid to transfer from the supply conduit through the exchange conduit.

9. The device of claim **1** wherein the heating conduit is constructed from stainless steel tubing.

10. A device for collecting solar energy from solar rays comprising:

a heating conduit for heating a fluid, the heating conduit adapted to receive solar rays reflected from a reflective surface, the heating conduit having an entrance end and an exit end, the entrance end of the heating conduit allowing the fluid to enter the heating conduit, the exit end of the heating conduit allowing the fluid to exit the heating conduit;

a supply conduit attached to said heating conduit, the supply conduit adapted to transfer the fluid toward the heating conduit, the supply conduit adapted to transfer the fluid away from the heating conduit;

a reflective surface adapted to reflect solar rays towards the heating conduit, said reflective surface adjustable on a first axis and a second axis, said reflective surface adapted to adjust in relation to said heating conduit; and

an adjustment body adapted to pivot on a single axis, said supply conduit adapted to pivot with said adjustment body; said reflective surface pivotally connected to said adjustment body wherein the pivotal connection of the reflective surface to said adjustment body allows adjustment of the reflective surface on the first axis, wherein pivoting of the adjustment body allows adjustment of the reflective surface on the second axis, wherein the supply conduit remains fixed in relation to said adjustment body as said adjustment body pivots on said single axis.

11. A device for collecting solar energy from solar rays comprising:

a heating conduit for heating a fluid, the heating conduit adapted to receive solar rays reflected from a reflective surface, the heating conduit having an entrance end and an exit end. the entrance end of the heating conduit allowing the fluid to enter the heating conduit, the exit end of the heating conduit allowing the fluid to exit the heating conduit;

a supply conduit attached to said heating conduit, the supply conduit adapted to transfer the fluid toward the heating conduit, the supply conduit adapted to transfer the fluid away from the heating conduit;

a reflective surface adapted to reflect solar rays towards the heating conduit, said reflective surface adjustable on a first axis and a second axis, said reflective surface adapted to adjust in relation to said heating conduit;

an adjustment body adapted to pivot on a single axis, said supply conduit adapted to pivot with said adjustment body; said reflective surface pivotally connected to said adjustment body wherein the pivotal connection of the reflective surface to said adjustment body allows adjustment of the reflective surface on the first axis, wherein pivoting of the adjustment body allows adjustment of the reflective surface on the second axis, wherein the supply conduit remains fixed in relation to said adjustment body as said adjustment body pivots on said single axis; and

an exchange conduit pivotally attached to said supply conduit, said exchange conduit adapted to allow said supply conduit pivot with said adjustment body, said exchange conduit adapted to allow the fluid to transfer from the supply conduit through the exchange conduit.

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