

DIRECTIONS for the Operation and Care of the

Coleman

Hot-Ray Heater

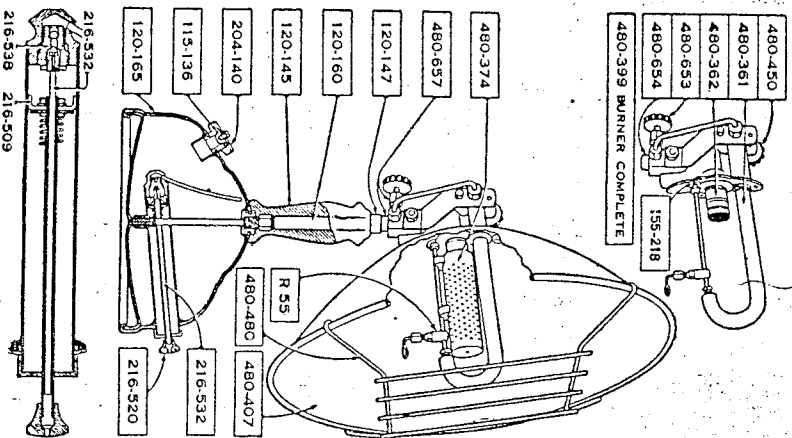
Model 480

1. **If Heater Does not Light at all—**
Cause—Gas Tip stopped up.
Remedy—Rotate Cleaning Needle Lever around several times. (See Paragraph 5, Note 3.)
Cause—No gasoline or air in Fount.
Remedy—Be sure Fount contains gasoline. Then, pump fifty full strokes of air into Fount. (See Paragraph 3 and 4.)
Cause—Generator stopped up.
Remedy—Replace old generator with new one.
2. **If Built-in-Pump does not Work—**
Cause—Pump Leather may be dry or worn out.
Remedy—Oil Pump Leather or replace with new one.
3. **If Heater Blazes up When you Light it—**
Cause—Generator not sufficiently preheated before opening Fuel Valve.
Remedy—Read and carefully follow directions for Lighting (See Paragraph 5).
Cause—Enlarged orifice in Gas Tip.
Remedy—Replace Gas Tip or Generator.
Cause—Heater tilted forward.
Remedy—Tilt back as in Fig. 3.
4. **If a Leak Develops—**
(a) At back end of Generator—
Cause—Generator not seated properly into Vaporizing Tube.
Remedy—Close Fuel Valve, then tighten Jam Nut with Wrench, turn to right. If leak continues, put on new Generator. If new Generator fails to stop leak, then trouble is with Vaporizing Tube which should be replaced with new one.
(b) At Fuel Valve Pack Nut—
Cause—Pack Nut loose.
Remedy—Tighten with Wrench.
(c) At Feed Tube Pack Nuts.
Cause—Pack Nuts loose.
Remedy—Tighten with Wrench. If tightening Pack Nuts does not remedy, send Burner Unit to nearest Coleman Branch for repair.
5. One filling (3 pints) of gasoline, should burn ten to twelve hours. When flame burns low, pump more air into Fount.

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HOT RAY HEATERS

Model 480



Parts No.	Name of Part	Net Retail Price
R55	Rotary Generator (Gas Tip Marked "R") (155-999)	2 for \$.50
115-136	Filler Plug Gasket	.06
120-145	Lamp Handle	.36
120-147	Hamul Lock Nut	.15
120-160	Fuel Wire with Fuel Tube	.45
120-165	Fount Complete	7.50
133-418	Gas Tip (Marked "R")	.06
204-139	Filler Plug Disc, Gasket and Screw	.15
204-140	Filler Plug Complete	.48
216-509	Pump Leather	2 for .09
216-520	Pump Plunger Complete (Less Air Stem)	.60
216-532	Air Stem	.15
216-538	Check Valve	.15
480-171	Fuel Tube (3" Long)	.36
480-361	Vaporizing Tube	.90
480-362	Burner Cap Complete	.30
480-364	Filler Rod and Wick	.09
480-374	Radiant	.30
480-399	Burner Unit Complete (With Generator)	4.50
480-407	Reflector	2.10
480-450	Lock Wheel	1.15
480-480	Guard	.45
480-490	Burner Unit, Radiant and Reflector Complete	7.50
480-653	Valve Stem Complete	.30
480-654	Valve Body	.75
480-657	Fuel Valve Complete	1.35
480-903	Alcohol Bottle (only)	.15
480-920	Alcohol Torch and Bottle Complete	.18
605-950	Wrench	.15

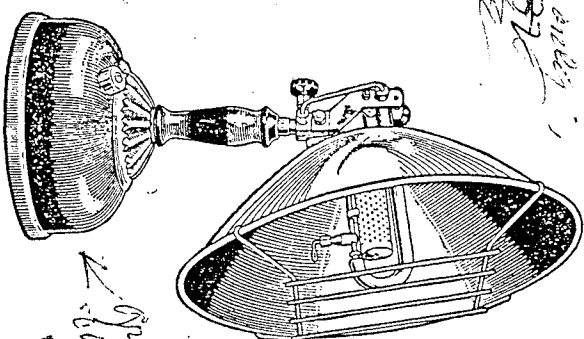
The No. 216-538 Check Valve can be unscrewed with ordinary Screw.

DIRECTIONS for Assembling and Operating

Coleman

Hot-Ray Heater

Model 480



FOUR THINGS TO DO

1. Read and carefully follow directions for assembling and operating given in this folder. If you will do this you will avoid difficulties that arise from incorrect operation.
2. Ask your dealer for a list of gasolines sold in your state which have been tested and found satisfactory for use in Pressure Gas Lamps, Lanterns, Stoves, Irons, etc., or write direct to the United Laboratories, 240 North St. Francis St., Wichita, Kansas.
3. Be sure to thoroughly preheat Generator before opening Fuel Valve (See Paragraph 5 inside).
4. Clean out the Fount every month. This keeps the fount and dirt which collects at the bottom of the Fount from stopping up the Generator (See Paragraph 8 inside).

MADE IN U. S. A. BY

The Coleman Lamp and Stove Company

General Offices: WICHITA, KANSAS
Branches: Philadelphia, Chicago, Los Angeles
Factories: Wichita, Chicago, Toronto, Canada

1. The Coleman Hot-Ray Heater Packed—

The Coleman Hot Ray Heater is packed in a carton in units and assemblies as follows:

1. Fount Complete
2. Burner Unit Complete (with Generator).
3. Reflector.
4. Radiant.
5. Guard.
6. Single Parts Package.

2. How to Assemble—

It is very easy to assemble the Coleman Hot-Ray Heater. Look at the parts illustration on the reverse side of this folder and note the relation of the various parts to each other and how the Coleman Hot-Ray Heater looks when assembled.

- (a) Rub a little soap on the threaded end of Feed Tube which protrudes through top of handle. Do not get any soap inside Feed Tube as it will clog the Generator.
- (b) Then screw Burner Unit Complete (with Generator) on to the Feed Tube, by hand, turning to the right. Do not screw too tightly for fear of stripping threads, and causing a leak at this connection.
- (c) Insert lever on Generator through notch in Reflector. Then push Reflector up and over Vaporizing Tube, fasten the Reflector to Burner Unit with three screws.
- (d) Place the notches of the Radiant on the Generator. Then swing the Radiant into line between Generator and Vaporizing Tube and push it down gently over the Burner Cap.
- (e) Spring Guard over edges of the Reflector. Your Coleman Hot-Ray Heater is now ready to operate.

3. How to Fill—

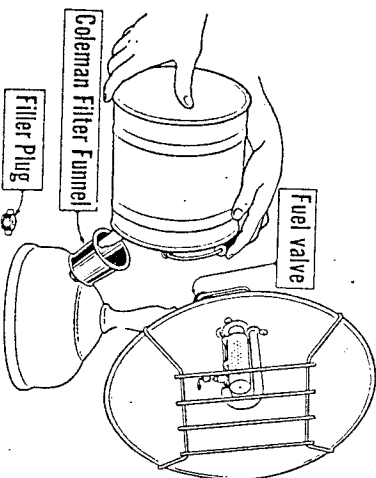


Figure 1

Be sure Fuel Valve is closed tightly, turn Valve Stem to right. Then unscrew Filler Plug, turn to left. Fill Fount with three pints of fresh, clean, undoped, water-white gasoline. Replace Filler Plug, turning to right, and tighten with fingers. (We recommend the use of the new Coleman Filtering Funnel No. 0, which removes dirt and water when filling Fount. Your dealer can ...)

SPECIAL NOTICE

The No. 480-490 Burner Unit, Radiant and Reflector Complete, of the Coleman Hot-Ray Heater will fit several makes of pressure gas Lamp Founts, including the Coleman Quick-Lite. (It cannot be used on a Coleman Instant-Lite Lamp Fount.) First be sure the Fount is thoroughly clean. Assemble old Lamp Fount, and No. 480-490 Burner Unit, Radiant and Reflector Complete, See Paragraph 2, How to Assemble. See Paragraph 3, How to Fill. Pump Fount up as you have been accustomed to do with your Lamp. See Paragraph 5, How to Light. Paragraph 6, How to Close. Paragraph 7, How to Change Position of Reflector.

4. How to Pump—

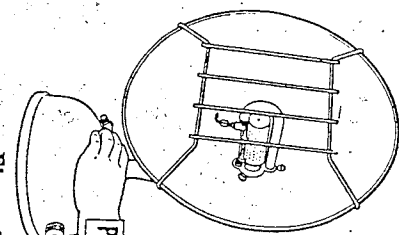
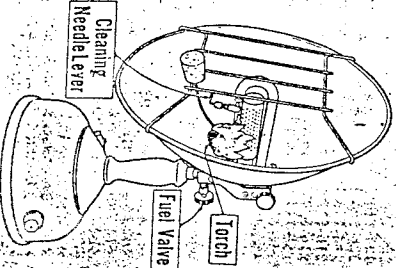


Figure 2

- Be sure Fuel Valve is closed tightly. Turn Valve Stem to right. (See Figure 3.)
- (a) Turn Pump Plunger two full turns to the left. This unscrews Air Stem from Check Valve located at lower end, inside of pump barrel.
 - (b) Place thumb over small hole in Pump Plunger Handle. (See Figure 2), and pump fifty full strokes of air in Fount.
 - (c) Now turn Pump Plunger to right, screwing and seating Air Stem in Check Valve, push Pump Plunger back into pump barrel.
 - (d) Changing the Pump Leather occasionally or keeping Pump Leather oiled will insure full amount of air being delivered in Fount with each stroke of Pump Plunger.

5. How to Light—

It is necessary to preheat the Generator of the Coleman Hot-Ray Heater with the flame from an Alcohol Torch. An Alcohol Torch and Bottle are furnished with each Heater. Tilt reflector until it points up as shown in Fig. 3. Thoroughly saturate the Torch with alcohol, light it and hook it on to the Generator (see Figure 3). Make sure that the flame is directed on and actually heating the generator. Count slowly to twenty (It is important to do this that the generator may be thoroughly heated). Then open fuel valve one full turn to left. Let torch hang on generator until burned.



NOTE.—If Hot-Ray Heater burns with a weak flame—

- (a) Not enough air in the Fount. Pump more air into Fount (See Paragraph 4).
- (b) Fuel Valve not opened enough. Turn Valve Stem one full turn to the left.
- (c) Gas Tip partially clogged or Cleaning Needle pushed in the Gas Tip. Turn Cleaning Needle Lever (See Figure 3) on Generator around several times. This inserts and withdraws the Cleaning Needle through the orifice of the Gas Tip, removing any dirt or obstruction. The Cleaning Needle Lever on the Generator should be turned out toward Guard, the Cleaning Needle is then withdrawn from the orifice of the Gas Tip.

6. How to Shut Off Heater—

Close Fuel Valve, turn Valve Stem to right until seated snugly. Flame will go out in about one minute.

7. How to Change Position of Reflector—

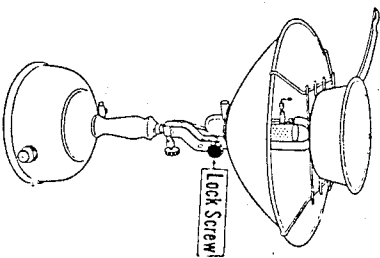


Figure 4

Turn Lock Screw to left as far as possible. (See Figure 4.) Turn Reflector to horizontal position and turn Lock Screw to right until tight. When Reflector is in this position, the Heater can be used to heat water. (It will boil two quarts of water in about eight minutes) boil coffee, fry eggs, meat or cakes.

All gasoline contains some foreign matter which will not vaporize and which remains in the fount. If the fount is not cleaned occasionally, this foreign matter will accumulate and cause trouble. Keeping the fount clean insures longer service from generators, easier lighting and greater efficiency.

The contents cannot be entirely drained through the filler plug opening because of a tube which starts at the filler plug and extends a short way into the fount. The best way