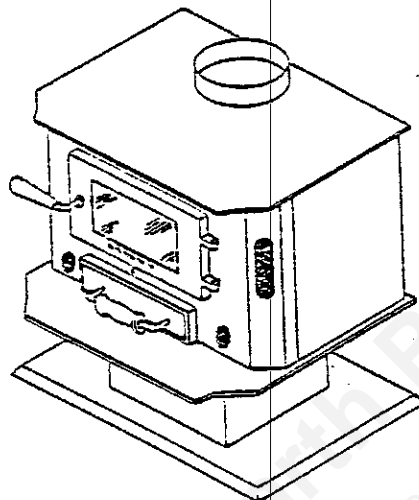


# owners manual

# Forester Room Heater



## Model 2021

**CAUTION:**

Read All Instructions  
Carefully Before Starting  
The Installation or  
Operating The Heater.

Improper Installation  
Could Void Your  
Warranty!

**SAFETY NOTICE:**

If this heater is not properly installed, a house fire may result. For your safety, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

**DO NOT USE THIS HEATER IN A MOBILE HOME OR TRAILER**

Save This Manual  
For Future References.

- Assembly
- Installation
- Operation
- Repair Parts



**United States Stove Company**

111 Industrial Dr.

P.O. Box 151

South Pittsburg, TN 37380

85961

# CONGRATULATIONS!

You've purchased one of America's Finest Wood Burning Heaters.

By heating with wood you're helping CONSERVE AMERICA'S ENERGY!

Wood is our Renewable Energy Resource. Please do your part to preserve our wood supply.

Plant at least one tree each year. Future generations will thank you.

## tools and materials needed

### TOOLS

Pencil  
6 Foot Folding Rule or Tape Measure  
Electric Drill (1/4")  
Drill Bit (For Sheet Metal Screws)-1/8" Dia.  
Screw Driver (Blade-Type)  
3/8" Box, Open End or Small  
Adjustable Wrench  
Gloves  
  
9/16" box, open end or small  
adjustable wrench  
5/16" Nut Driver or  
5/16" Socket w/Ratchet

### MATERIALS - PEDESTAL HEATER

6" Pipe, 6" Elbow, Collar and Thimble;  
as required (24 gauge min.)  
Sheet Metal Screws - (No.10A x 1/2")  
6" Inside diameter Underwriters Laboratories (U.L.)  
Listed Residential Solid Fuel Factory-Built  
Triplewall Chimney or existing masonry chimney.  
Furnace Cement (Manufacturer Recommends:  
Rutland Black Code 78 or equivalent).

Floor Protector as specified in Figures 2, 3, & 4.

## FORESTER 2021 Pedestal Room Heater Dimensions

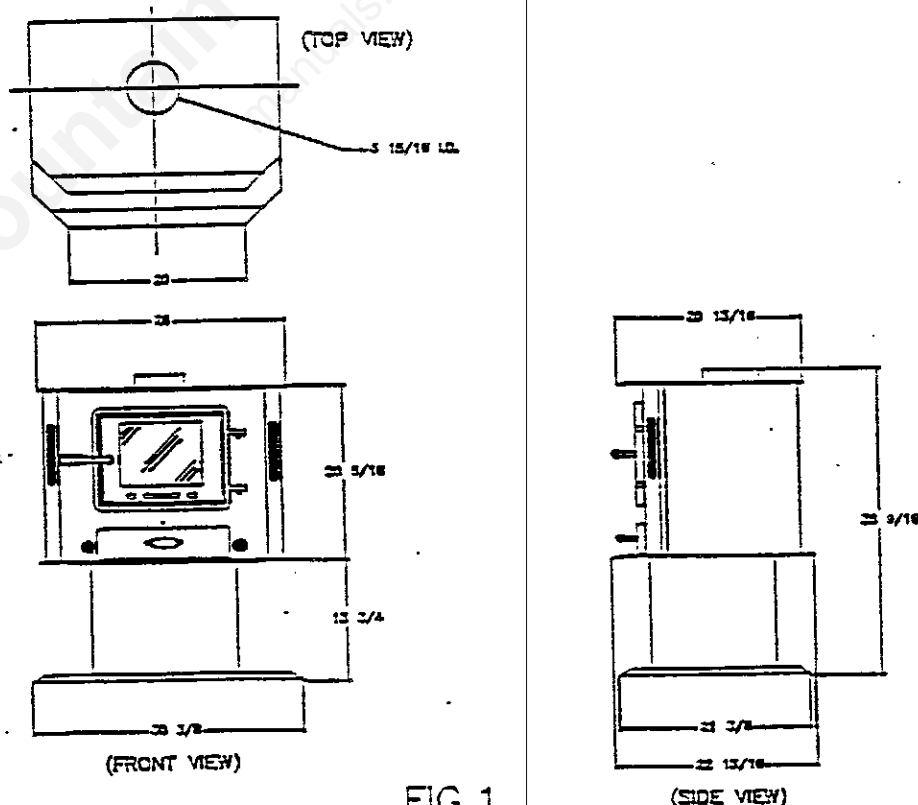


FIG. 1

# rules for safe installation and operation

Read these rules and instructions carefully.

**SAFETY NOTICE:** If this heater is not properly installed, a house fire may result. For your safety, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

1. Check your local building and fire codes. This installation must comply with their rulings.
2. **DO NOT** install this heater in a mobile home or trailer.  
**DO NOT** connect a wood burning heater to an aluminum Type B gas vent. This is not safe and is prohibited by the National Fire Protection Association Code.
3. Always connect this heater to a chimney and vent to the outside. Never vent to another room or inside a building.
4. The freestanding room heater requires a masonry or a UL Listed Residential Type and Building Heating Appliance Chimney.
5. Be sure the masonry fireplace is clean and in a safe condition. Have the chimney inspected by the fire department or a qualified inspector. Your insurance company may be able to recommend a qualified inspector.
6. Make sure the masonry chimney is high enough to give a good draft.
7. Inspect the chimney twice monthly during the heating season for any deposit of creosote or soot. Such deposits must be removed. See CHIMNEY MAINTENANCE, Page 11.
8. **DO NOT BE ALARMED IF HEATER SMOKES UPON INITIAL FIRING.** The special paint used on this heater must be cured during initial firing. This smoking will occur only on initial firing.
9. **CAST IRON PARTS MUST BE "SEASONED" TO AVOID CRACKING.**

**CAUTION:** Do not touch the metal or glass surfaces of the heater until it has thoroughly cooled.

**BUILD ONLY SMALL FIRES DURING THE FIRST FEW DAYS OF USE.**

10. To prevent injury, do not allow anyone to use this heater who is unfamiliar with the correct operation of the heater.
11. For additional information on using your Room Heater safely, obtain a copy of the National Fire Protection Association (NFPA) publication "Chimneys, Fireplaces, and Solid Fuel Burning Appliances" NFPA No. 211. The address of NFPA is Batterymarch Park, Quincy, MA 02269.
12. **DISPOSAL OF ASHES** - Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.
13. Keep the ashpit section free of excess ashes.
14. Observe clearances to combustible materials specified in this manual to avoid a fire hazard.
15. The metal used in construction of the heater has a light coating of oil. This could give off smoke and/or odors when heater is used for the first couple of times. This should disappear after a short period of time. Once this burn-off has occurred, it should not reoccur. **CARING FOR PAINTED PARTS**  
This heater has a painted outside jacket, which is durable but it will not stand rough handling or abuse. When installing your heater, use care in handling. Clean with soap and warm water when heater is not hot. **DO NOT** use any acids or scouring soap, as these wear and dull the finish. **PAINT DISCOLORATION WILL OCCUR IF THE HEATER IS OVERFIRED. FOLLOW OPERATING INSTRUCTIONS CAREFULLY.**
16. The firebox walls in this heater may become slightly distorted over a period use. The slight distortion does not affect the operation of the unit.

# Locating The Forester Room Heater

## AS A LOCATION IS SELECTED, KEEP THE FOLLOWING IN MIND:

1. Keep the chimney connection as short as possible. The heater must have its own chimney flue. Do not connect any other appliance to the same flue. If there is no chimney near where you wish to place the heater, you can use a UL Listed Residential Solid Fuel Factory-Built Chimney (Fig. 7).
2. Place the heater on solid masonry or solid concrete. When the heater is used on a combustible floor, use a non-combustible floor protector of 3/8" thick millboard having a thermal conductivity of  $K=0.84$  BTU in./Ft.<sup>2</sup> hr. deg. F. with 28-gauge sheet metal or a UL

listed floor protector. Have the floor protector extend 14-1/2" in front of the hearth extension, 1-3/4" to each side, 10-3/8" to the rear; underneath and 2" to each side of the chimney connector. (SEE FIG. 2).

3. Check Figures 2, 3, & 4. You should have at least the clearances shown from the heater and the connector pipe to combustible surfaces. If you have a solid brick or stone wall behind your heater, you can place the heater as close as you wish to the wall. If the wall is only faced with brick or stone, treat it as a combustible wall.

## MINIMUM CLEARANCE TO COMBUSTIBLE WALLS

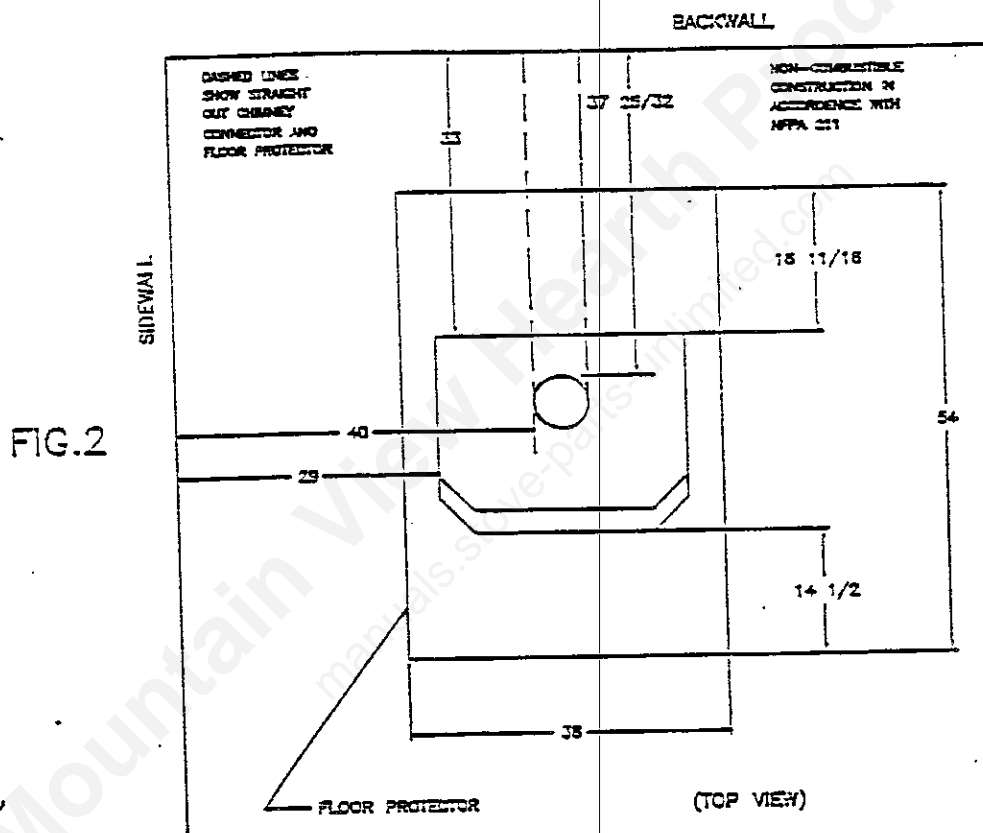


FIG. 2

**CAUTION**  
Keep furnishings and other combustible materials away from the heater.

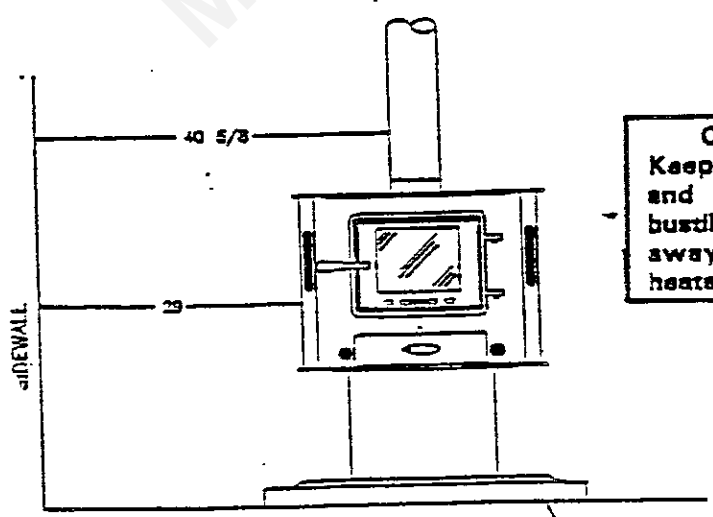


FIG. 3

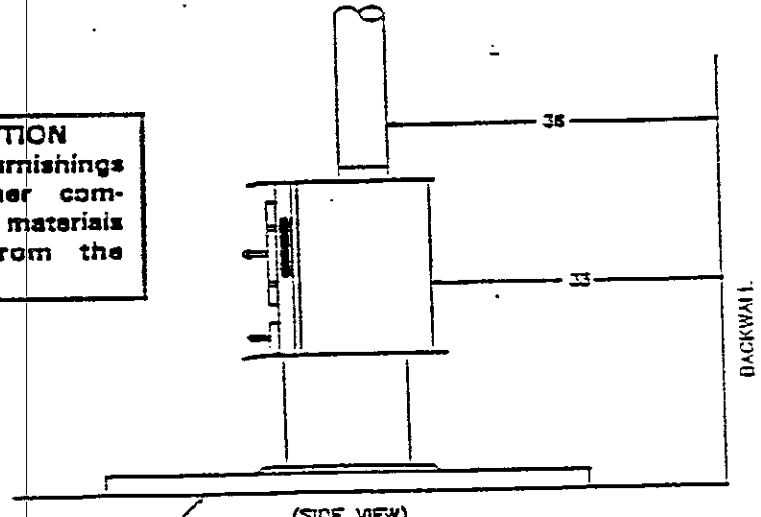


FIG. 4

# Chimney connection

Two basic types of chimneys are approved for use with solid fuel. Factory-built and masonry. Factory-built chimney must comply with UC 103HT standard.

Do not expect your stove or furnace to create draft. Draft is not a function of the appliance. Draft is purely a function of the chimney. Modern stoves and furnaces are much more air-tight and efficient than those of the past, and, therefore, require greater draft. A minimum of .06 measured in water column (gauges to measure chimney draft are readily available at stove shops and are economical to purchase or rent) is required for proper drafting to prevent back-puffing, smoke spillage, and to maximize performance.

Chimneys perform two functions - one of which is apparent: The chimney provides a means for exhausting smoke and flue gases resulting from combustion of the fuel. Secondly, though, the chimney provides "Draft" which allows oxygen to be continuously introduced into the appliance, so that proper combustion is possible. As of April 1, 1987, all wood heaters and furnaces manufactured by United States Stove Company should be installed using a factory built chimney that meets the "Type HT" requirement of UL 103 (when a factory-built chimney is used).

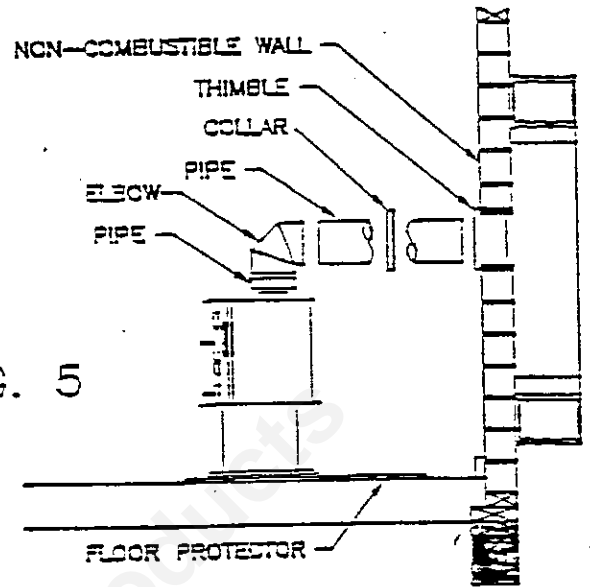


FIG. 5

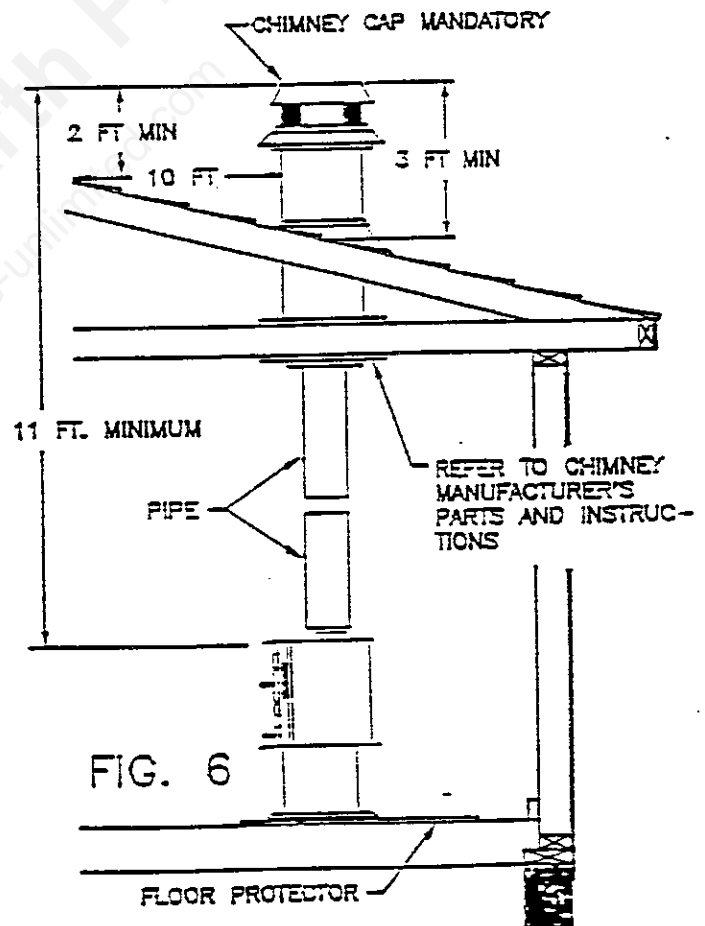


FIG. 6

## venting into a fireplace

Many people may wish to convert an existing fireplace to heater use. Usually, safe connection of stovepipe to a masonry chimney requires more effort than connection to a prefabricated chimney. The fireplace must be tightly closed and sealed at the damper in the flue. Good sealants are high-temperature caulking, ceramic wool, and furnace cement. Always remember to inspect the masonry chimney and fireplace. If necessary, clean the flue and smoke shelf before beginning your installation. Install the heater into the fireplace so that the system can be dismantled for cleaning and inspection.

Before deciding to convert your fireplace, keep in mind that some fireplaces and existing chimneys are unsafe. They must be structurally sound, and the flue liner must be in good condition. Do not use a chimney if it is unlined (should have a fire clay tile liner to protect brickwork). Have it relined professionally. Clearances to combustibles are explained in the previous section on masonry chimneys. If you have any question regarding the condition of the chimney, consult a qualified engineer, competent mason, or knowledgeable inspector.

**CAUTION  
NOT ALL FIREPLACES  
ARE SUITABLE FOR  
INSTALLATION OF A WOOD  
HEATER.**

Many prefabricated fireplaces fall into the "zero-clearance fireplace" category. This is a factory-built metal fireplace with multilayered construction. It is designed to provide enough insulation and/or air cooling so that the base, back and sides can be safely placed in direct contact with combustible floors and walls. Although many prefabricated fireplaces have been tested by nationally recognized organizations for use as fireplaces, they have not been tested to accept heaters. In fact, their use as such may void the manufacturer's warranty.

Steel-lined fireplaces, on the other hand, can be used with heaters. These units use a 1/4-inch fire box liner and an air chamber in connection with 8 inches of masonry to meet code. They contain all the essential parts of a fireplace, firebox, damper, throat, smoke shelf, and smoke chamber. Many of them look exactly like a masonry fireplace and must be checked closely for above requirements before installing a wood heater into them.

Another method frequently used by some people is to vent the heater directly into the fireplace. This does not meet code since the heater is being vented into another appliance - the fireplace. This method should not be attempted because combustion products will deposit and build up in the firebox or fireplace. Be certain not to install a hazard in your house. You will void your warranty with this installation.

When considering a masonry chimney, round tiles are preferable to square or rectangular, as round tiles have much better airflow characteristics and are far easier to clean. Unfortunately, most North American chimneys use square or rectangular tile liners that are really designed for open fireplaces, not stoves or furnaces. Of most importance, second only to overall chimney height, is the diameter of the flue liner itself. In most instances, it should be sized to the appliance; i.e., 6" flue outlet on the appliance requires a 6" chimney. The inner diameter should never be less than the flue-outlet diameter and should never be greater than 50% of the appliance flue outlet. For example, do not expect a wood or coal burning stove or furnace to function properly if installed into a chimney with a flue liner greater than 50% more than the appliance outlet - - such as a 6" flue outlet requires a 6" diameter for optimum drafting, but can function well with an 8", but becomes border - line beyond an 8" diameter.

Masonry chimneys built of concrete blocks with or without flue liners do not meet modern building codes. A solid fuel appliance must not be joined to a chimney flue which is connected to another appliance burning other fuels.

If your chimney has a typically oversized flue liner of, say 8x12 inches, or greater, or if it is unlined, it will be necessary for you to re-line the chimney, using many of the modern approved and economical methods such as stainless steel, castable refractory, or properly sized fireclay linings.

If you have any questions regarding venting your appliance, feel free to contact the factory at the address and phone number on this Owner's Manual. You may also contact NFPA (National Fire Protection Association) and request NFPA Standard 211 (1984 Edition). Their address is Battery March Park, Quincy, Massachusetts 02269. Another helpful publication is NFPA Standard 908, available at the same address. Specify 1984 Edition of either of the above publications.

## Fireplace installation

Connection of the stovepipe directly into the existing masonry chimney over the fireplace opening is a more desirable method. This installation performs better, yielding more heat and better draft; it is also easy to clean and inspect for creosote. Before beginning this type of installation plan carefully; a high degree of skill is required to insure safety.

An entry port for the stovepipe must be cut through the chimney with minimum damage to the fireclay liner. Some involved measurements may be required to locate the flue liner exactly. Before cutting, take time to mark the size and position of the entry port. Position the entry port so that at least 8 inches of the flue liner remains below the port.

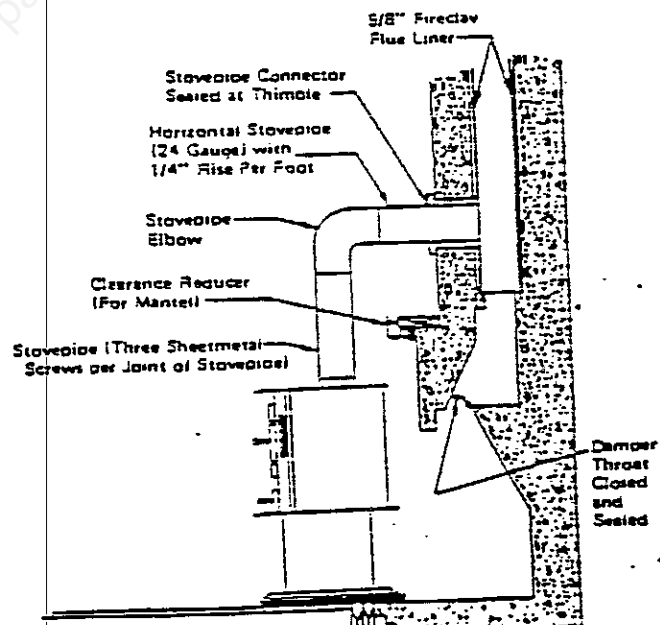
Keep in mind that wood mantels and combustible trim around the fireplace must have adequate clearances from the heater and stovepipe or must be protected in an approved manner. Also, be sure to leave at least an 18-inch clearance between the top of the stovepipe and the combustible ceiling or other combustibles. Placing the center of the entry port 2 feet below the ceiling will insure proper clearance for 6-inch, 8-inch, and 10-inch stovepipes. Next, install a fireclay (at least 5/8 inch thick) or metal thimble, being sure that the thimble is flush with the inner flue lining, secure the thimble in place with refractory mortar. The thimble should be surrounded on all sides with 8 inches of brickwork (solid masonry units) or 24 inches of stone.

Install the stovepipe as far as possible into the thimble, but not past the inside of the flue lining. There should be a small airspace (approximately 1/2 inch) between the stovepipe and thimble, allowing for expansion of the stovepipe. Seal this airspace with high-temperature caulking or ceramic wool. Finally, be sure to wire the damper closed and apply the same sealant you used at the stovepipe and thimble junction.

Do not use the Type B installation (not illustrated in this manual), that is, venting up through the fireplace opening, regardless of whether the fireplace opening is closed.

Masonry chimneys have several positive attributes: If properly built, they are quite durable, and most homeowners consider them more attractive perhaps than an unenclosed factory built chimney. And, if the chimney is located within the confines of the house (that is, not attached to an exterior wall), its mass alone will store heat longer and continue to release the heat long after the fire has died. Masonry chimneys have many disadvantages though.

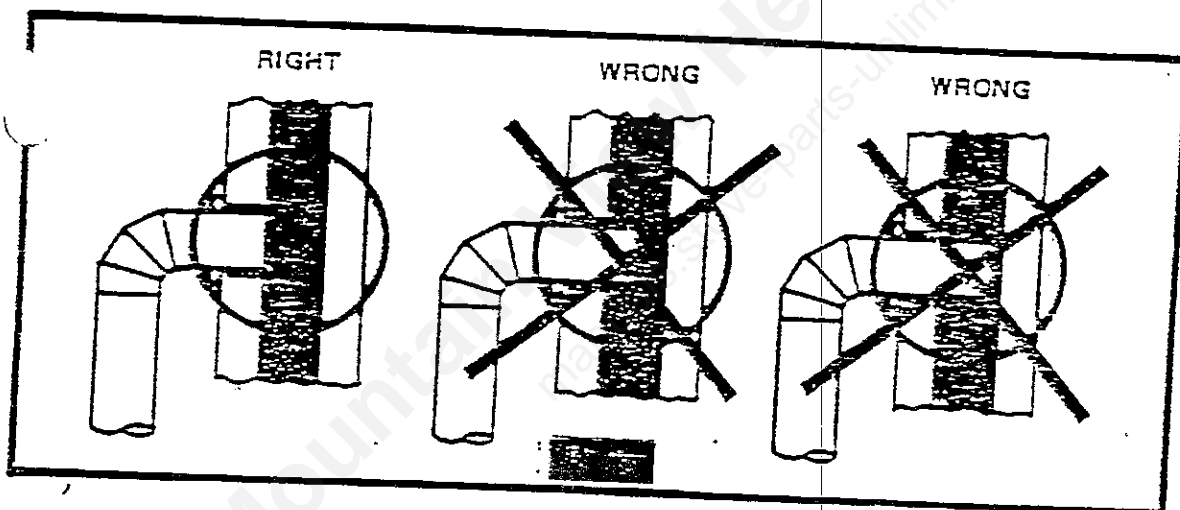
Masonry chimneys constructed on an exterior wall are exposed to cold outdoor temperatures, promoting greater heat loss, higher accumulations of creosote, and reduced draft which leads to poorer heater or furnace performance.



TYPE A **FIG-7**  
FIREPLACE CONVERSION

# Rules For Connector Pipe Installation

1. The crimped end of the stovepipe fits inside the heater flue collar. Install additional pipe and elbow with the **CRIMPED END TOWARD THE HEATER**. This will allow any condensation in the flue to run back into the heater.
2. Slope any horizontal pipe upward toward the chimney at least 1/4 inch for each foot of horizontal run.
3. You must have at least 18 inches of clearance between any horizontal piping and the ceiling.
4. The pipe cannot extend into the chimney flue (Fig. 8).
5. Seal each connector pipe joint with furnace cement. Also seal the pipe at the chimney.
6. Use 3 sheet metal screws at each joint to make the piping rigid.
7. It is recommended that no more than two 90° bends be used in the stovepipe installation as more than two may decrease the amount of draw and possibly cause smoke spillage.
8. The chimney connector must not pass through an attic or roof space, closet, or any concealed space, or floor, ceiling, wall or combustible construction.



# Operating Instructions

## WOOD FUEL

Use Hardwood that has been split and air-dried to obtain maximum burning efficiency.

## LIGHTING INSTRUCTIONS

1. Open door and place paper and kindling in the firebox.
2. Light the fire and close the doors until the kindling is burning.
3. Open the doors and add fuel as desired.

## EXTENDED OPERATION

1. Fuel should be added in small amounts to give more complete combustion and uniform room temperature.
2. Empty the ashes regularly. Do not allow ashes to build up. Dispose of hot ashes properly.

## OPERATING TIPS

This heater is designed to give you the maximum heat output per pound of wood. The tips given here are based on information gathered over the past few years and are offered to ensure you receive the best performance possible from your unit.

## service hints

Do not expect a heater to draw. It is the chimney that creates the draft. Smoke spillage into the house or excessive build up of water or creosote in the chimney are warnings that the chimney is not functioning properly. Correct the problem before using the heater.

Possible causes are:

1. The chimney used for this heater must not be used for any other appliance.
2. The chimney used for this heater must not be used to ventilate cellar or basement.
3. If there is a cleanout door at the base of the fireplace chimney, close it tightly.
4. If the chimney is remaining too cool, water will condense in the chimney and run back into the fireplace. Creosote formation will be rapid and may block the chimney. Operate the heater at a high enough fire to keep the chimney warm preventing condensation.
5. If the chimney does not seem to draw or if smoke spills into the house from around the trim, be sure that

### WARNING

Fireplace inserts equipped with doors should be operated only with the doors fully open or the doors fully closed. If the doors are left partly open, gases and flames may be drawn out of the fireplace insert front opening, creating risks and hazards from both fire and smoke.

### CAUTION

Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.

### CAUTION:

A chimney fire may cause ignition of wall studs or rafters which you thought were a safe distance from the chimney. If you have a chimney fire, have your chimney inspected by a qualified person before using again.

### CAUTION

OVERFIRING OF THE HEATER MAY CAUSE A HOUSE FIRE. IF A UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.

## chimney maintenance

### Creosote and Soot - Formation and Need for Removal

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

The chimney should be inspected at least twice monthly during the heating season to determine if a creosote or soot build up has occurred.

If creosote or soot has accumulated it should be removed. Failure to remove creosote or soot may cause a house fire, creosote may be removed by using a chimney brush or other commonly available materials.

Chimney fires burn very hot. If the chimney catches fire, immediately call the fire department. Pour a large quantity of coarse salt, baking soda or cool ashes on top of the fire in the firebox.

the trim gasket is sealing tightly against the fireplace front.

6. If the fire burns well but sometimes smokes or burns slowly, it may be caused by the chimney top being lower than another part of the house or a nearby tree. The wind blowing over a house or tree falls on top of the chimney like water over a dam, beating down the smoke. The top of the chimney should be at least 2 feet higher than any point of the roof within 10 feet. (Fig. 10)

**Glass Cleaning** - To clean the glass in your heater, wait until it has cooled. Spray the glass lightly with a mild oven cleaner. Follow instructions of the cleaner manufacturer.

**Caring For Painted Parts** - The paint baked onto the steel or iron is very durable but it will not stand rough handling or abuse. When installing your heater, use care in handling. Clean with soap and warm water when heater is not hot. DO NOT use any acids or scouring soap as these wear and dull the finish. PAINT DISCOLORATION WILL OCCUR IF THE HEATER IS OVERFIRED. FOLLOW OPERATING INSTRUCTIONS CAREFULLY.

# Door Handle Replacement Instructions

1. Remove handle(s), washer(s), door latch and 7/16" nut(s) from door(s).

2. Assemble door handle as shown in Fig. 22. Slide handle into hole at the top of door. Add (2) washers and latch (making sure handle is horizontally — 3 o'clock position, latch will be 30° off of vertical centerline of hole — 11 o'clock position; bent part of latch will be on the right when looking at heater from front). Next, add (1) 7/16"-20 nut onto threaded shaft of handle and tighten.

NOTE: HANDLE IS TO FIT HORIZONTALLY WHEN DOOR IS CLOSED.

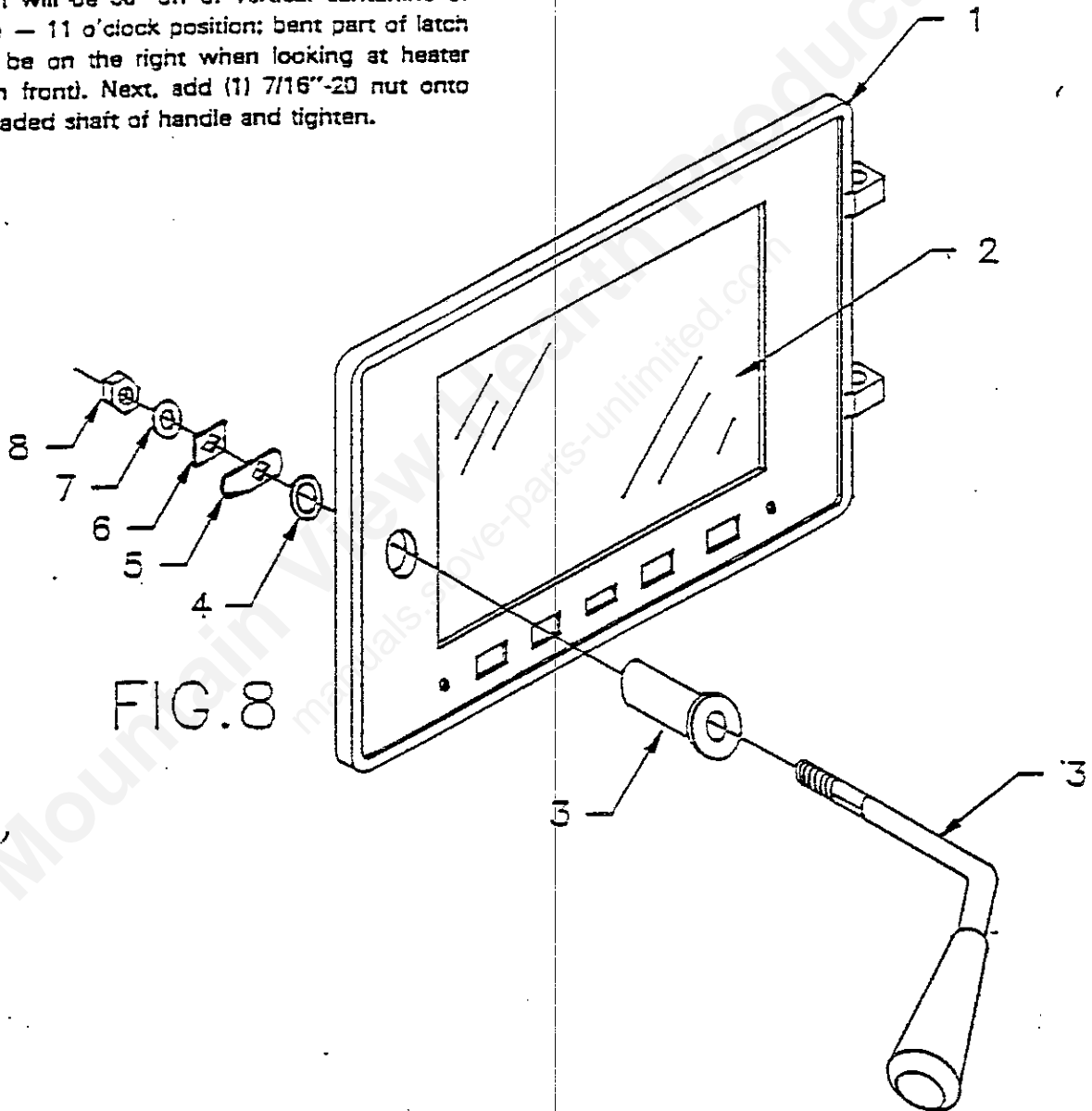


FIG. 8

## NOTE

During opening and closing of the doors of this heater, it may seem that the fit of the doors are "too tight." As the heater is fired, the gasketing "settles" or "seats" itself in the doors. The tight fit at the factory and before the heater's initial firing is to insure a good seal after the gasketing "settles."

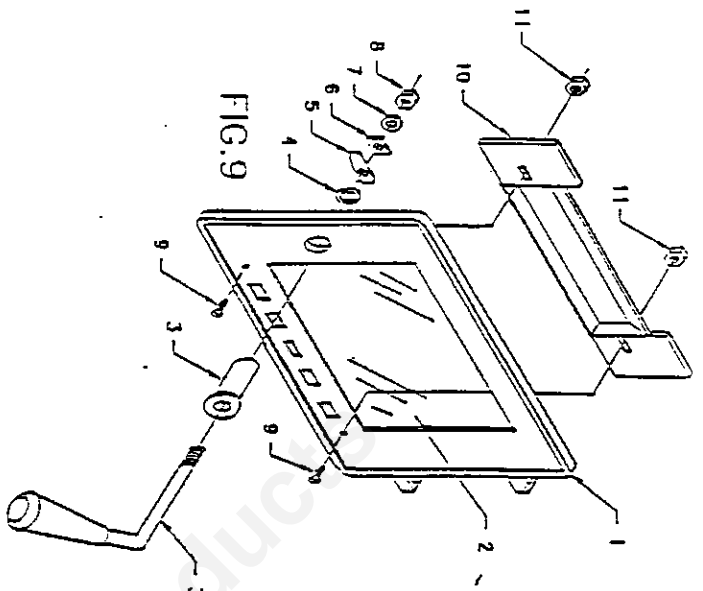


FIG. 9

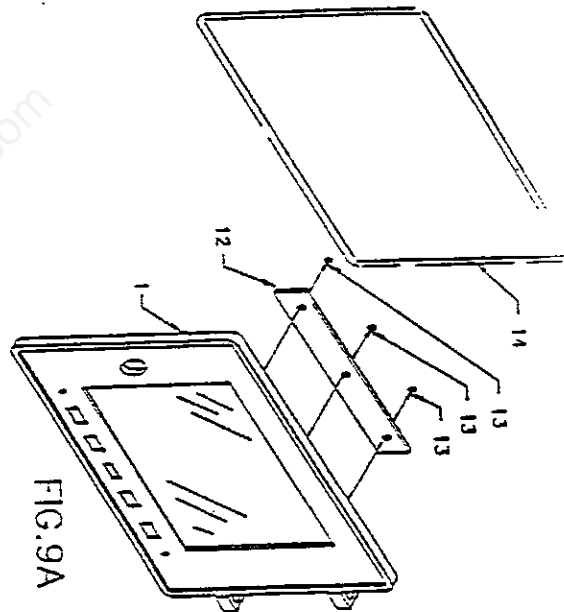


FIG. 9A

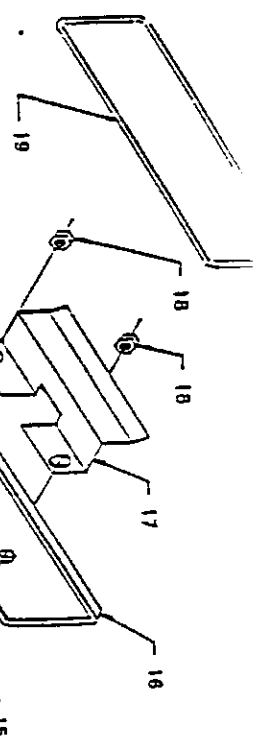


FIG. 10

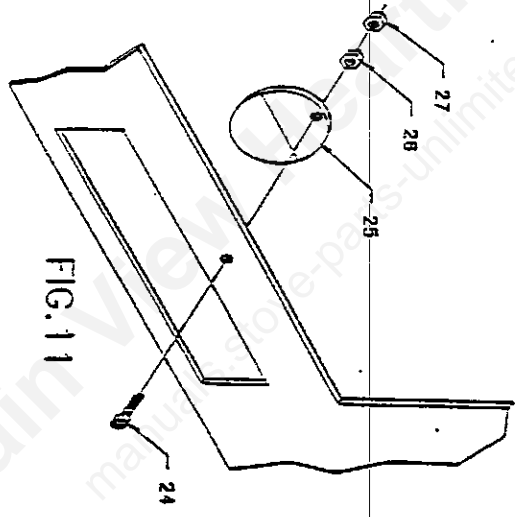


FIG. 11

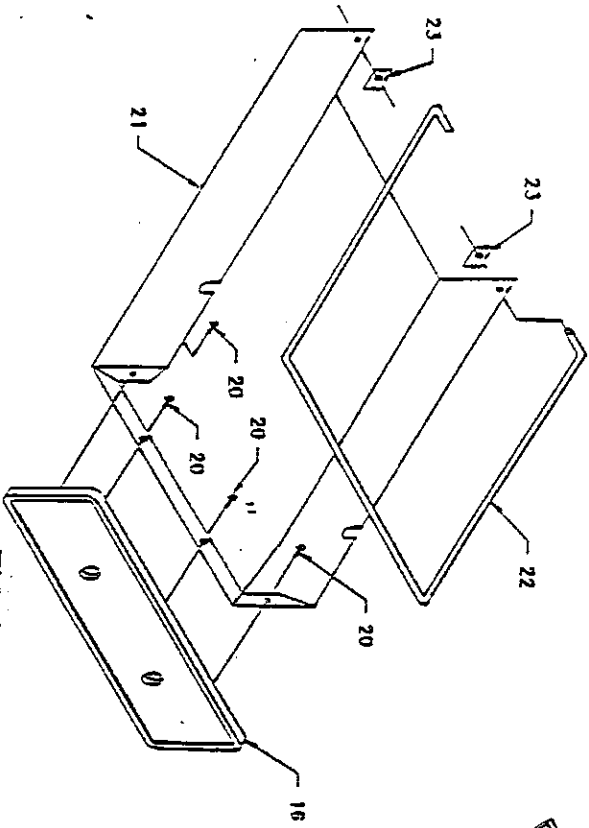


FIG. 10A

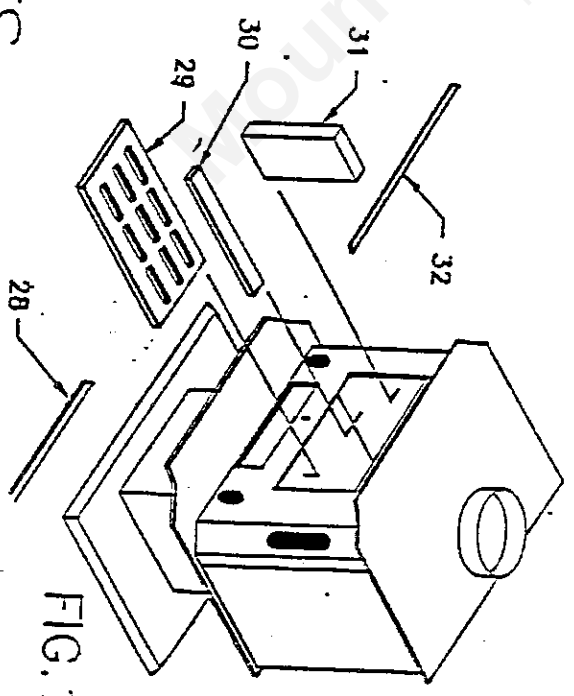


FIG. 12

REPAIR PARTS

KEY	PART NO.	DESCRIPTION
1	40229	FEED DOOR
2	89155	GLASS
3	89354A	FEED DOOR HANDLE
4	83273	FLAT WASHER
5	21047	DOOR LATCH
6	21467	LATCH SPACER
7	83045	FLAT WASHER 5/16 I.D. 3/4 O.D.
8	83243	7/16-20 HX LOCK NUT
9	83102	1/4-20 X 1 1/4 (2 REQD.)
10	23585	AIR WASH
11	83250	1/4-20 KEP NUT
12	21781	SIDE GLASS RETAINER
13	83362	10-24 X 1/4 (3 REQD.)
14	88066	5/8" ROPE GASKET
15	89333	ASH PAN HANDLE
16	40266	ASH PAN FRONT
17	23587	ASH PAN LOCK BRACKET
8	83178	JAMB NUT 3/8-16 (2 REQD.)
19	88033	3/8" ROPE GASKET
20	83362	10-24 X 1/4 (4 REQD.)
21	23586	ASH PAN
22	23590	BAIL HANDLE
23	83192	TINNERMAN CLIP NUT (2 REQD.)
24	83425	1/4" ALLEN CAP SCREW 5/16 X 1
25	23588	ASH PAN LATCH
26	83206	5/16-18 HX NUT
27	83338	5/16-18 LOCK NUT
28	89557	CABINET BOTTOM TRIM
29	40288	GRATE 7 X 15 (2 REQD.)
30	68656	SPACER (2 REQD.)
31	89066	FIRE BRICK (10 REQD.)
32	89556	CABINET TOP TRIM
33	89558	1/4" ALLEN WRENCH - FOR ASH PAN LOCK BRACKET (NOT SHOWN)

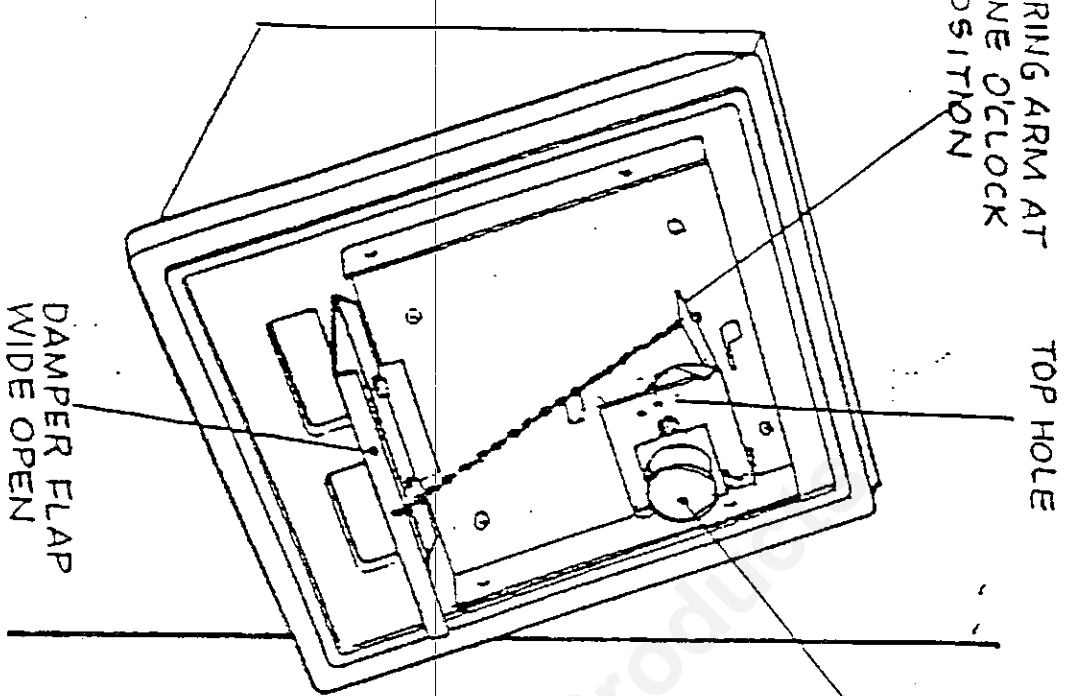


FIGURE 1

DAMPER FLAP WIDE OPEN

RING ARM AT NINE O'CLOCK POSITION

TOP HOLE

CONTROL KNOB IN "HI" POSITION

SPRING ARM AT SEVEN O'CLOCK POSITION

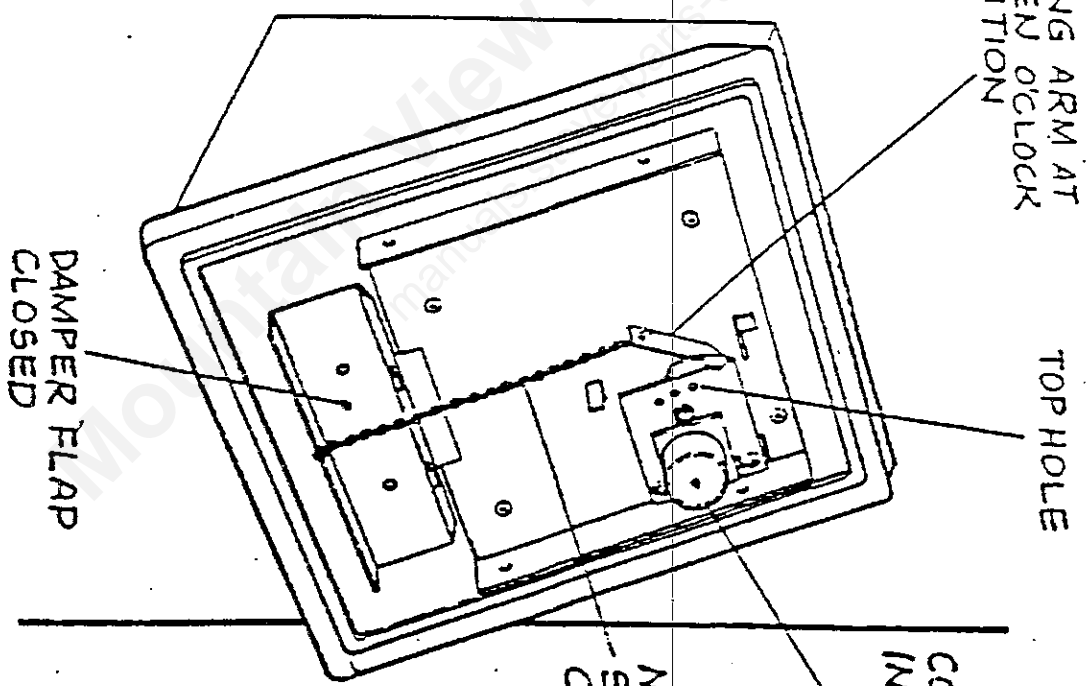


FIGURE 2

DAMPER FLAP CLOSED

TOP HOLE

CONTROL KNOB IN "HI" POSITION

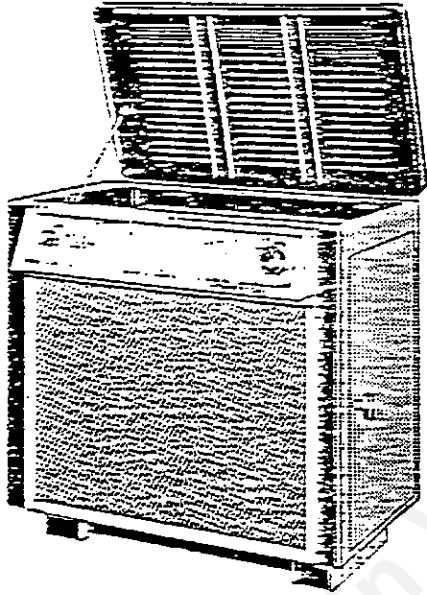
NO EXCESS SLACK IN CHAIN

OTHER FINE PRODUCTS MADE BY  
U.S. STOVE COMPANY  
111 INDUSTRIAL DRIVE  
P.O. BOX 151  
SOUTH PITTSBURG, TN 37380  
(615)837-2100

Model 2827

*Wonder Coal*

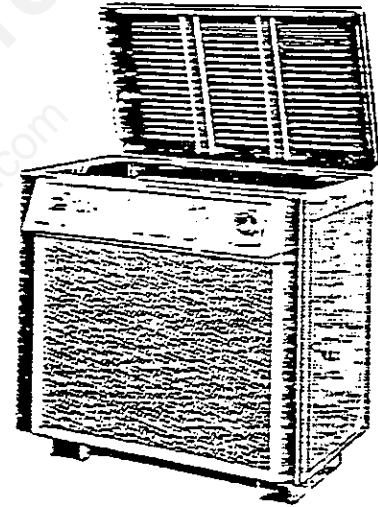
THERMOSTAT CONTROLLED  
COAL BURNING CIRCULATOR



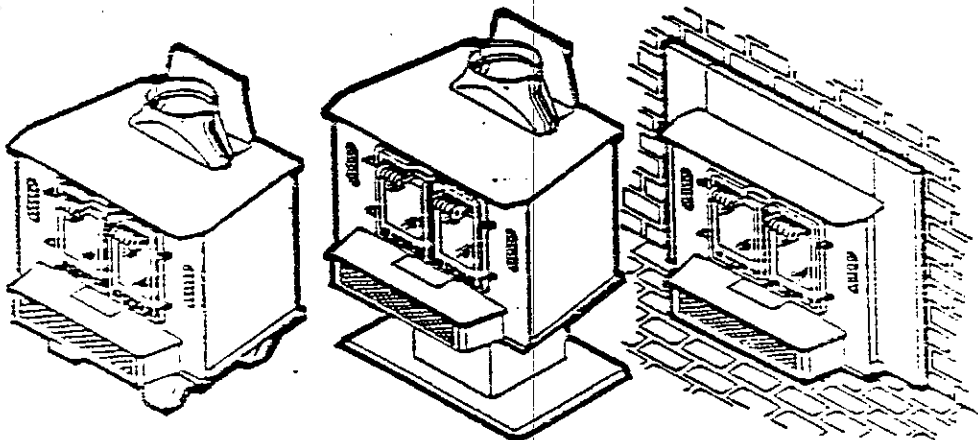
Model 2941

*Wonder Wood*

THERMOSTAT CONTROLLED  
WOOD BURNING CIRCULATOR



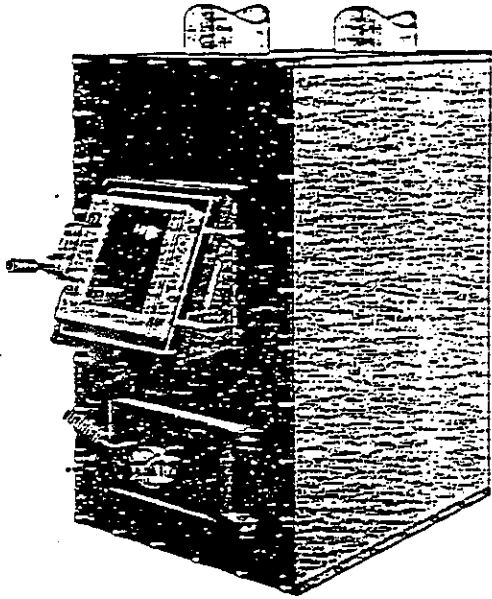
**Forester Room Heater**



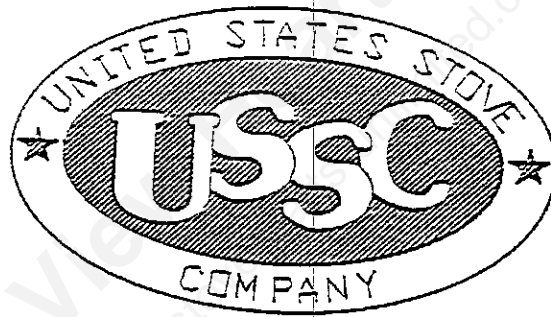
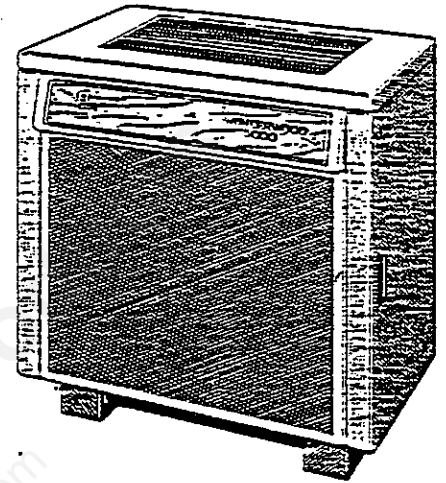
Model 4300/4301/4303

# LIQUID FUEL WARM AIR FURNACE

del 1300/1400/1421/1500/1527

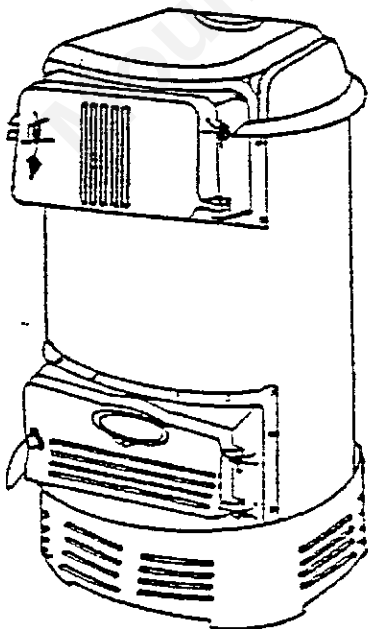


# 6027 WOOD/COAL HIGH OUTPUT CIRCULATOR



20/FB

# HOT BLAST MAGAZINE COAL HEATER



# Model 127 BOX WOOD HEATER

