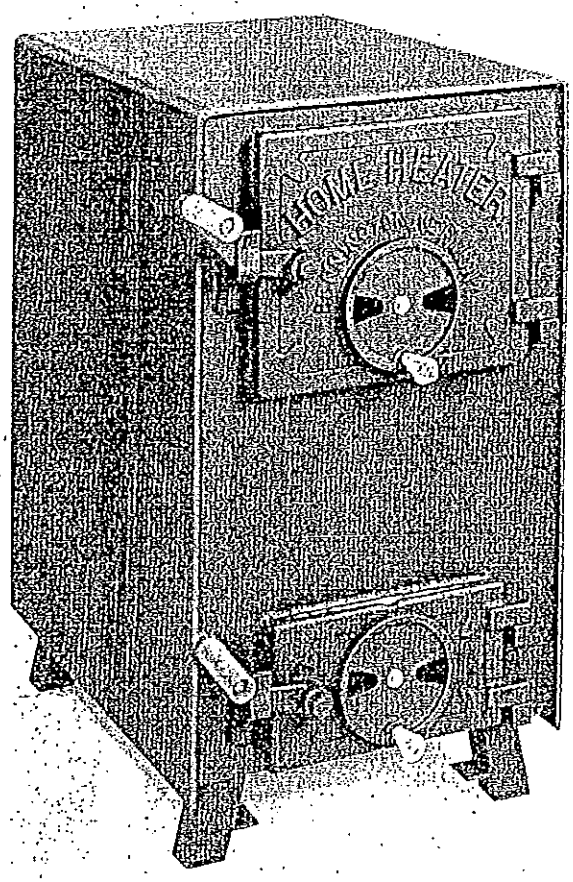
HomeHeater™

Home Heater H 1, H2 & H3 Owners Manual

RUGGED DEPENDABLE QUALITY



THAT IS BUILT TO LAST

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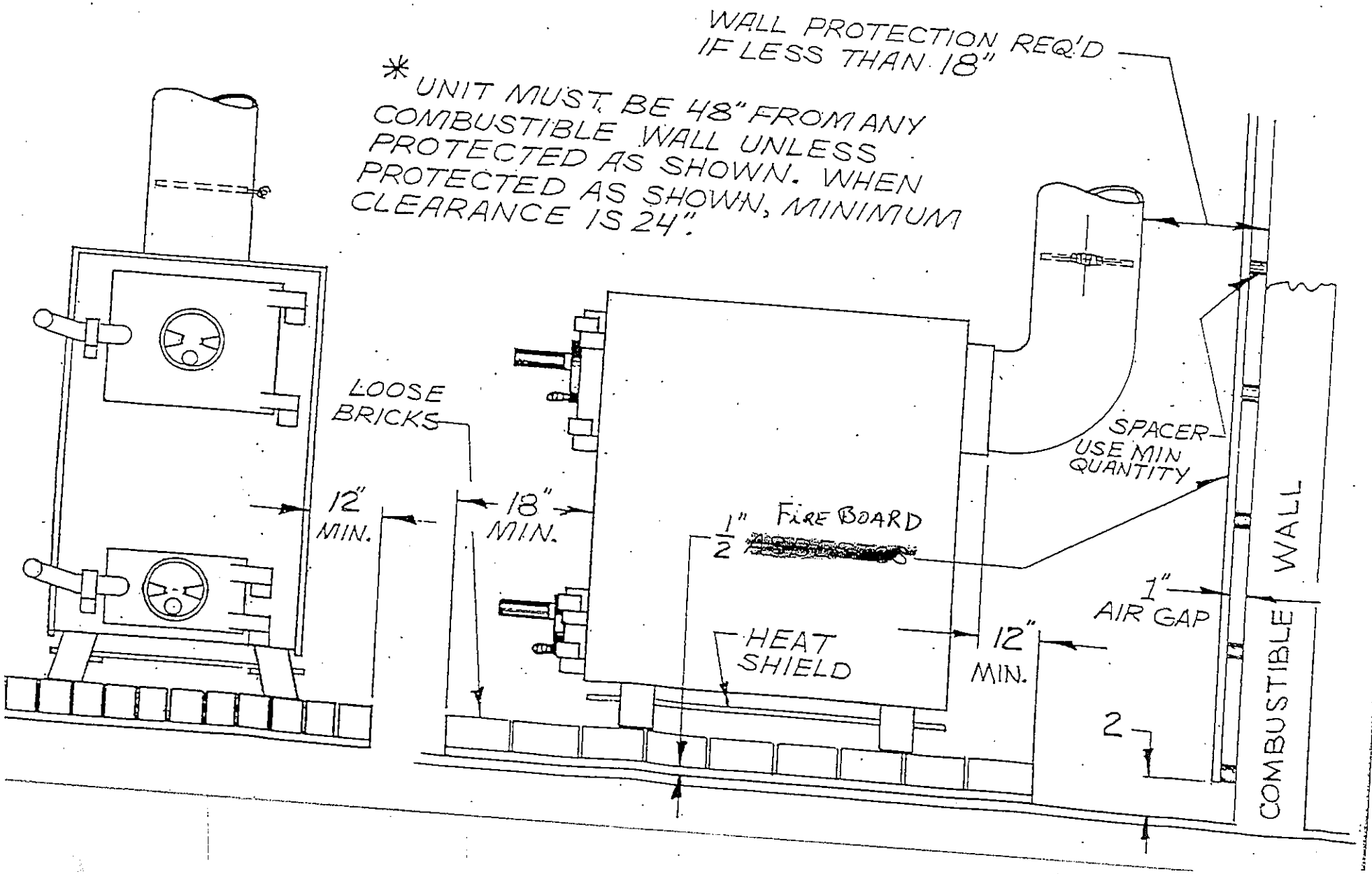
FIGURE #1


WALL PROTECTION REQ'D IF LESS THAN 18"
* UNIT MUST BE 48" FROM ANY COMBUSTIBLE WALL UNLESS PROTECTED AS SHOWN. WHEN PROTECTED AS SHOWN, MINIMUM CLEARANCE IS 24".
LOOSE BRICKS
12" MIN.
18" MIN.
1/2" FIRE BOARD
SPACER USE MIN QUANTITY
1" AIR GAP
HEAT SHIELD
12" MIN.
2
COMBUSTIBLE WALL

INSTALLATION

1. Side and rear walls of your Home Heater should be at least 48" away from any combustible surface. If you must locate your stove closer than 48" to a combustible surface, you must properly insulate that surface. A good method is to mount a 1/2" thick piece of mill asbestos on the wall in question leaving a 1" air space between the asbestos and the wall. Use only as many non-combustible spacers as needed so as to minimize the transfer of heat to the wall. The piece of asbestos should be at least 12" larger all around than the side of the stove facing that wall. (See Figure #1).

2. If your Home Heater is to be placed on a combustible surface, you must insulate under it. A 1/2" thick asbestos board should be placed on the floor, then a course of brick laid loosely on it. Your Home Heater may than be placed on top of this insulation. The reflective heat shield must then be installed between the legs. (See Figure #1).

3. Connect your Home Heater to your chimney using 8" diameter stove pipe (6" diameter stove pipe for Model H3 only). Use either heavy gauge black pipe or insulated pipe. Do not use thin wall galvanized pipe.

4. BE CERTAIN to securely fasten all lengths of pipe together. Most insulated pipe twists and locks; any pipe that does not should be securely screwed together and also be fastened to the stove. The male end of all pipe should point toward the stove.

5. Install a draft damper in the stove pipe about 2 feet from your stove. These dampers are made of cast iron. There are a few holes in them to allow passage of air and they do not fit tightly in the pipe. They do, however, cause a major restriction when shut, thus slowing the draft and allowing longer burn times then could be achieved without them. In fact, without a draft damper in your system, long burn times are almost impossible to attain. (See Figure #2).

6. If you intend to burn hard coal (anthracite) in your Home Heater, you should also install a barometric damper between the draft damper and the chimney. This device is used to adjust the draft exerted by the chimney and should be set at approximately .04 inches.

7. When inserting the stove pipe into the chimney, the end of the pipe should be nearly flush with the tile liner. If the pipe is inserted too far, it can block the draft; not far enough can allow it to fall out. Also, once the pipe is inserted, you should pack any gaps between it and the chimney with either a non-flammable insulation or cement.

8. Take care in mounting your stove pipe so as not to come too close to any combustible surface. It should remain at least 18" away from any combustible surface or ceiling. Where it cannot, you must insulate that surface as outlined in Paragraph 1 for the walls of the stove. (See Figure #1).

9. Almost all fires caused by stoves are caused by improper installation. So please, follow our instructions for a safe installation.

YOUR CHIMNEY:

A proper chimney is an absolute must in the use of any coal or wood stove as one not adequate for the task can cause a great many problems. Here are some points to consider.

1. A cold chimney (one that loses heat fast) has two main differences from a warm chimney. First, a cold chimney will allow creosote to condense on its walls much faster than a warm chimney. Since creosote is what chimney fires burn, this is important to you. Second, a cold chimney will give less draft, thereby reducing the heat the stove is capable of producing. In the case of burning coal, a poor draft can become dangerous by not exhausting all the gases released.

2. Since a chimney which is built within the house is much warmer than one outside, the inside one is preferred. If you must use an outside chimney, your best choice is a good, well insulated pipe. Check your local heating contractor for his recommendations. Your next choice is a tile lined block chimney.

3. All chimneys should have a clean-out door at the bottom. Be sure this door closes securely and seals so as not to leak air into the chimney thus reducing its draft.

4. If you have any doubts about the advisability of using a given chimney, we suggest that you have a reputable heating contractor look at it.

BURNING ANTHRACITE COAL

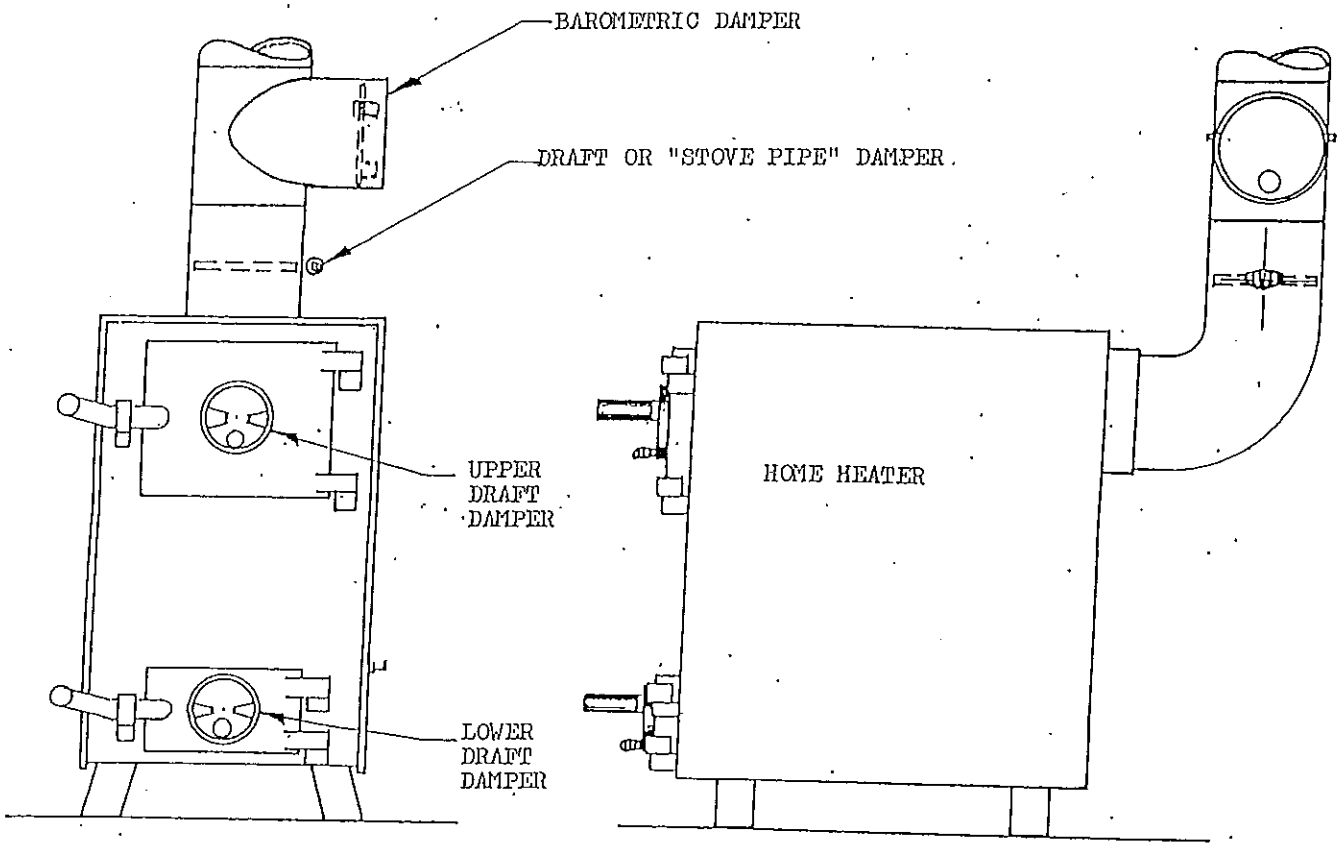
The Home Heater is designed to run primarily on chestnut size coal, sometimes called nut coal, although stove coal will also burn well in it. In mild weather, pea size may be used to give longer burn time with less heat output. However, if pea size is used, a layer of ash must be left on the grates or the pea coal will fall through the grate openings.

Coal must be dry to burn well and thus should be stored indoors. To estimate the space needed, one ton of coal will occupy approximately 40 cubic feet. Since the density of coal does vary, so will the space required, but not to a large degree.

There are four dampers involved in running your stove.

(a) upper draft damper (on the top door),
(b) lower draft damper (on the ash door),
(c) draft damper (in your stove pipe),
(d) barometric damper (in your stove pipe).

FIGURE 2



Start your stoves as follows:

1. Place crumpled newspapers on top of the grates. Use full size sheets crumpled to about the size of a grapefruit and use 2 or 3 sheets for each grate.

3. Put one shovelfull of coal (about 10 to 15 pounds) in the stove. Try to sprinkle it evenly over the wood.

4. Check your draft damper in the stove pipe to be sure it is open, close the top door, and open its damper all the way.

5. Now, light a ball of crumpled newspaper and place it in the ash pit. Leave the ash door open for about 2 or 3 minutes, or until the fire is burning well. You may hear a few coals fall into the ash pit but this is normal.

6. Set both door dampers open all the way, then simultaneously open the top door and close the bottom door. Allow the fire to burn this way for a few minutes until you see some blue flame in parts of the coal. If the fire appears to die down, close the top door (but do not latch it) and open the bottom door partially.

7. When the coal appears to have started burning (some red coals visible under the top layer plus some blue flame), add another shovelfull of coal sprinkled evenly over the fire. Again, let the stove burn with the top door closed (but not latched) and the bottom door open, for two or three minutes or until you see a fair amount of blue flame coming up through the new coal. Now open the top door, close the bottom door and allow a few minutes for the fire to calm down. Set both door dampers open about halfway and close both doors. Allow the stove to burn about 15 or 20 minutes, or until the coal is burning fairly well. Then add more coal, about 10 to 15 pounds at a time. By opening the bottom door about half and closing the top door to within about 1/2" you can accelerate the ignition of the coal. But whenever you do this always open the top door about 1/3 or 1/2 just before you close the ash door then leave the top door ajar for a few minutes until the fire calms down. If you abruptly close the bottom door without opening the top door, or fail to leave the top door open long enough for the fire to calm down, you will shortly experience a "puff back" or "blow off" of coal gas. At the least it will cause an unpleasant odor. If the concentration of gas is great enough, damage to your stove pipe and dampers could result.

8. After repeating Step 7 two or three times, the stove should be about half full (halfway up the bricks). Close the draft damper in the stove pipe all the way and set both door dampers about half open, then close both doors. If possible, you should allow the Home Heater to burn about 4 hours before adding more coal as this will give the fire time to become well established.

9. After having burned for 3 to 4 hours, the coal bed is in approximately the same state as it will be when ready for loading in the morning and evening.

10. With your top door damper open 3/4 of the way, open the stove pipe draft damper and lower door damper fully, then load enough coal in the stove to fill it even with the bottom of the brick retainer. Then using a garden hoe, or a similar object, carefully dig a hole in the fresh coal deep enough to expose a small (about 6" diameter) glowing red spot. Try not to disturb the burning coal any more than necessary. Close the door, wait until "steady" blue flame is visible, then close your pipe damper fully. You may then set your bottom draft damper. The time required before you see steady flame may vary greatly. It should happen between 15 and 60 minutes. What you are accomplishing is as follows: When fresh coal is added to the hot coal bed and thus heated, it initially gives off large amounts of gas. It is important that this gas is allowed to freely escape up the chimney so large amounts will not collect in the stove and pipe. Thus the pipe damper must be wide open.

Once there is steady fire in the stove, even though it is a small amount, the gases can no longer collect in a combustible mixture and it is safe and desirable to close the pipe damper. At this point, you have in effect, "lit the pilot light".

You should set your top door damper approximately half open and control your heat output with the bottom damper. Try setting the bottom damper 1/2 or 3/4 open as a starter.

Remember, when burning coal, NEVER close your top door damper fully. Always run at least 1/4 open. Likewise, NEVER fully close your bottom damper.

11. ALWAYS open your stove pipe damper fully before you open the top door.

12. NEVER load coal above the bricks as you will damage the stove.

13. Your stove is equipped with movable grates called shaker grates. A bed of burning anthracite should not be disturbed from above as this causes clinkers (fused ash and unburned coal) to form. You can even lose the fire by disturbing it from above.

However, you do need to agitate the coal bed to cause the ash to fall. This is done as follows: Once in the morning and once in the evening, just before loading, you must shake the grates using the removable handle on the front of the stove.

14. Probably the single most important part of running a coal stove is to properly shake the grates. In fact most problems encountered by the novice coal burner are directly related to improper use of the shaker grates.

The objective in shaking the grates is two-fold:

A. You must remove enough ash to allow a sufficient amount of coal (roughly half a load) to be added to last for 12 hours or more.

B. You must leave about a 2" layer of ash on the grates to protect them from the hot coals and to prevent jamming on hard, unburned pieces.

Whenever you shake the grates, shake them until some red coals fall into the ash pit or a red glow from above the grates is visible. At this point, STOP!!

Now tend the stove as outlined in Paragraph 10 and then leave it alone till next time, roughly 12 hours later.

15. The most common complaints heard from people new to burning coal are:

A. I loaded it full but when I got up in the morning, it had gone out and there was unburned coal in it.

B. The grates keep jamming when I shake them.

The answer to "A" is simple. The person operating the stove "thought" the stove was full of coal but it was not. This person did not shake the grates enough, looked in, saw a red-orange bed of burning coal and thought there was sufficient coal. However, there was a 4" to 6" layer of ash with only a couple of inches of burning coal on top. This person then added coal to the top of the bricks and thought it was enough to burn all night. Of course, it was not.

The problem is that large coal will not keep burning in just a thin layer. It needs a deep bed. If the depth of burning coal becomes too shallow, it looses too much heat, becomes too cool and the fire goes out. You then find a 1" or 2" layer of partly burned and unburned coal. If this happens, shake the grates more. You're being too careful.

The answer to "B" is also very simple. This person is shaking the grates too soon (didn't burn long enough to produce ash) or too much and is bringing still hard, partly burned coal in contact with the grates. If the grates jam, chances are they can be cleared by gently jiggling the grates with the handle. If that fails, leave the stove alone for a few hours and it will burn clear. When shaken properly, very little effort is required. DO NOT FORCE THE GRATES.

If you have poor coal, you may occassionally get clinkers. These are chunks of ash and other non-combustible matter that fuse together. If you have not over shaken the grates and they jam, you can usually break up the offending piece by shaking harder. But please do not try to destroy the grates. If it is jammed too badly, you may have to let the fire go out and remove the clinker manually. This, however, should be a rare event.

16. Never poke or stir a hard coal (anthracite) fire from above. You will probably put it out and almost certainly will cause clinkers to form.

17. Vary the location of the hole you dig in the bed of fresh coal to expose the "red spot". If you dig in the same location 2 or 3 times in a row, you will end up with a dead spot of solid ash.

18. After a few days you will find burning coal is very easy. However, should you lose the fire while learning, or just let it go out, you will have to remove the ash and coal from above the grates and start again. You will find coal produces more ash than wood. This is because coal is about 8% inert matter that will not burn as opposed to about 1½ % for wood. Any coal or very hard pieces may be sifted out of the ash and used again. Also, with the fire out you may have to remove unburned coal from the grates by hand if they are jammed. Never force the shaker handle. Should the grates jam while the stove is running, either let it run for a while to burn away the hard chunk jamming it, or use a hooked poker from below to dislodge the object.

19. Ash should be removed <u>before</u> you shake the grates so as to avoid removing hot coals. Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible 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.

20. 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.

21. For further information on using your heater safely, obtain a copy of the National Fire Protection Association publication "Using Coal and Wood Stoves Safely", NFPA No. HS-8-1974. The address of the NFPA is 470 Atlantic Avenue, Boston, MA 02210.

22. We hope you will enjoy using coal and will recommend it to your neighbors. This is America's premiere energy source.

REPLACEMENT OF GRATES

To remove the grates, proceed as follows:

1. Remove the firebricks from the side walls of the unit.
2. Remove the metal strip laying under these bricks.
3. All but the grates at the rear and front of the fire box may now be lifted out.
4. Remove the cotter pin locking the connector bars to the front grate. This may be reached through the ash door. The front grate may now be lifted out.
5. The rear grate and connector bar may be removed through the loading door.
6. To put the grates back into the unit, simply reverse steps 1 through 5 above.

GRATE RETAINERS

The Home Heaters are equipped with removable grate retainers. If they should ever require replacement remove the cotter pin locking the two halves together. Once separated, the two halves will fit thru the front door. To insert a new retainer simply reverse the process.

NOTE: These retainers are NOT covered by Warranty.

CAUTION
KEEP ASH DOOR CLOSED
DURING FIRING OF THE
HEATER TO AVOID DEVELOPING
EXCESSIVE TEMPERATURES