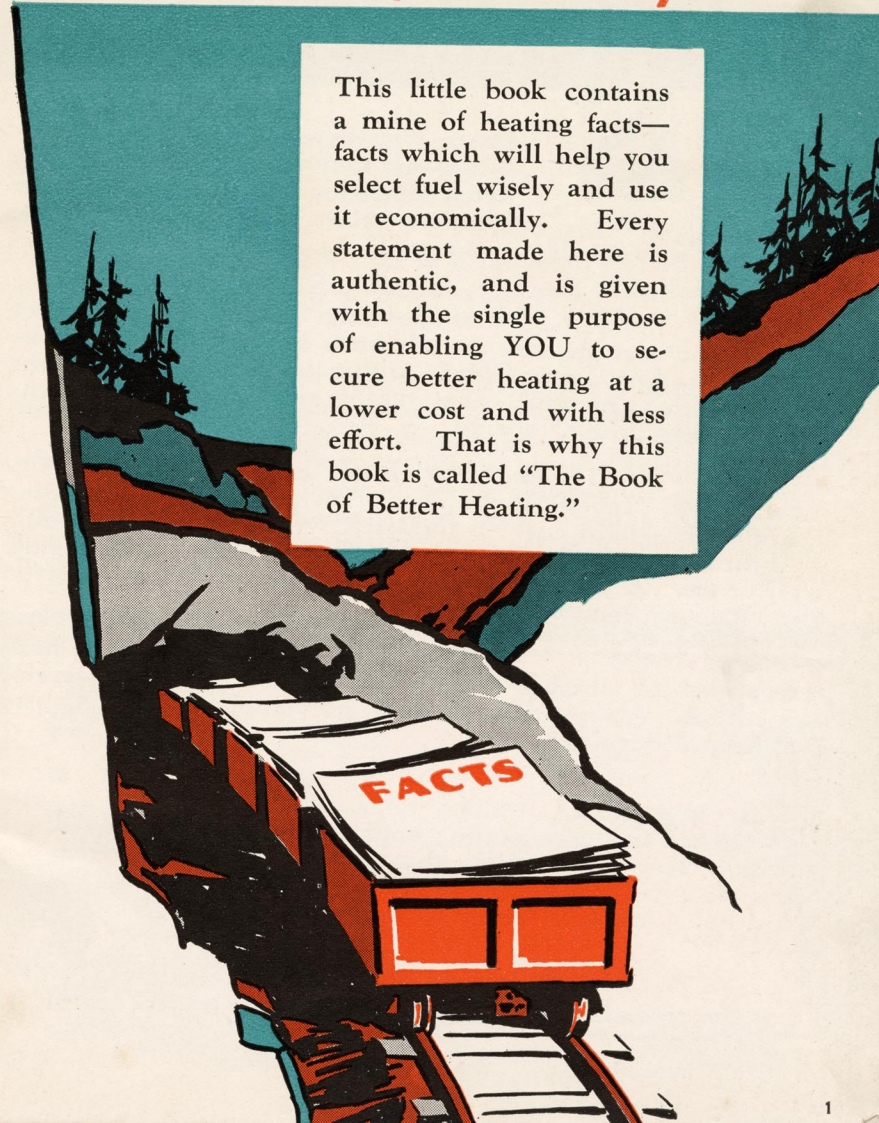


**THE
BOOK OF
BETTER
HEATING**



A MINE *of Heating Facts*

This little book contains a mine of heating facts—facts which will help you select fuel wisely and use it economically. Every statement made here is authentic, and is given with the single purpose of enabling YOU to secure better heating at a lower cost and with less effort. That is why this book is called “The Book of Better Heating.”





Choosing the RIGHT "FOOD"

Heating plants need the proper "food"—fuel—if they are to work at top-notch efficiency and give complete satisfaction. Here are questions whose

answers will enable you to get FULL VALUE from the fuel you buy:

- 1 Is It Clean?** Famous Reading Anthracite makes no smoke or soot, deposits no oily films on your walls or furniture. Reading Super-Clean Anthracite is more solid and compact in structure. That means almost no breakage, no dust in handling or storing.
- 2 Is It Safe?** The fuel you choose must be safe under all conditions. Investigations have shown that Famous Reading Anthracite—hard coal—is the safest of fuels. Famous Reading Anthracite cannot explode, it contains no quickly inflammable oil or tar. A spark will not ignite it, and it is not subject to spontaneous combustion.
- 3 Is It Dependable?** With Anthracite, you can have heat, regardless of whether electric wires are down or gas service is cut off. And Anthracite needs no complicated mechanism to keep it burning.
- 4 Is It Long-Burning and Effort-Saving?** The more dense structure of Reading Super-Clean Anthracite enables you to put far more heating units into your heater at a single firing. Tests made show that Reading Anthracite requires less than half the firing attention of other kinds of solid fuels and holds fire 40% longer when banked.
- 5 Is It Quiet and Well Behaved?** A fire made with Reading Super-Clean Anthracite is completely under control at

for YOUR FURNACE

all times, responding perfectly to your touch at the drafts. There is no noisy, droning mechanism to add to the hubbub of today's existence.

6 Does It Give Healthful, EVEN Heat? Medical authorities advocate EVEN heat as a preventive of winter colds and other illnesses. Reading Super-Clean Anthracite gives this EVEN heat, guaranteeing healthful comfort, due to its superior radiation.

7 Is It Economical? Safety, dependability, and cleanliness, are factors to be considered in judging whether a fuel is economical. Famous Reading Anthracite is low in first cost and because Reading Anthracite has the above qualities in so great a measure, it means sizable dollars-and-cents savings when used in your home. And, with Reading Anthracite, you can get exactly the RIGHT sizes for maximum economy in YOUR heating plant.



WHEN AND HOW TO FIRE

Get a "Big Fellow" When you install a new heater, it is best to get one that is *oversize*, rather than *undersize*. A heater which is *undersize* will burn more fuel to maintain a comfortable room temperature than one that is *oversize*.

The First Fire Close check damper and open smoke pipe damper (if you have one) and the ash pit door. Use plenty of kindling, and, when it is burning well, add a small amount of Anthracite. As this catches fire, gradually add more until you have a good substantial fire. The diagrams at the bottom of page 5 show the "crater" and "full furnace" methods of putting the coal into the fire pot for best results. Try these two methods to find out which works best in your own heater. After firing, regulate the drafts for the degree of heat you want. (See pages 8 and 9 for complete information about drafts and dampers.)

When You Get Up in the Morning In attending to a fire that has been held all night, close the check damper and open all drafts, as in building a new fire. If the fire is very low, add a sprinkling of fresh coal before shaking the grates. When the fire responds, shake grates gently until a dull glow shows in the ash pit, *but not until live coals drop into the pit*. Now fill the fire pot, using one of the two methods shown on page 5, being sure to leave a "hot spot" so that the new fuel will ignite readily. When the fire is burning well, set the

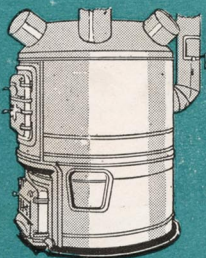
drafts on the thermostat for the degree of heat you want.

Before You Go to Bed In banking the fire at night, do not shake it down unless there is considerable ash. In ordinary winter weather, you will probably need to shake the fire down only once a day—in the morning. A layer of ash should always be kept on the grates to protect them. Charge the furnace with fresh coal, being sure to leave a "hot spot." Now set the drafts and your fire should hold all night.

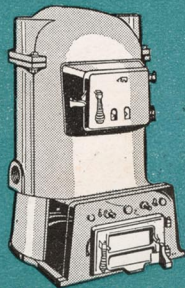
Famous Reading Anthracite Burns Better When Left Alone! If you have fired properly and have used Famous Reading Anthracite, your heater should require the minimum of attention during the day. Remember, Famous Reading Anthracite burns better when left alone. However, if refueling is necessary during the day, simply repeat the morning operation.



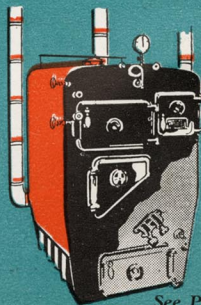
More Time for Yourself When You Burn Famous Reading Anthracite.



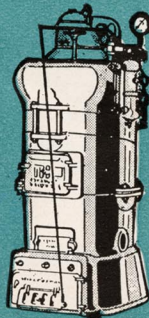
See General Rules (Page 10) and Page 11—Hot Air Heaters



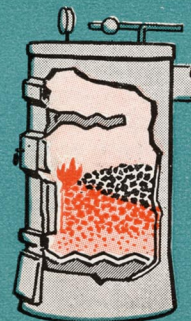
See General Rules (Page 10) & Page 13—Hot Water Heaters



See Page 20



See Page 12



FUEL SIZES THAT MAKE YOUR HEATER HAPPY

The **ECONOWAY**—

*What it is, and how it puts
extra dollars into your pocket*

Everybody is interested in saving money on fuel.

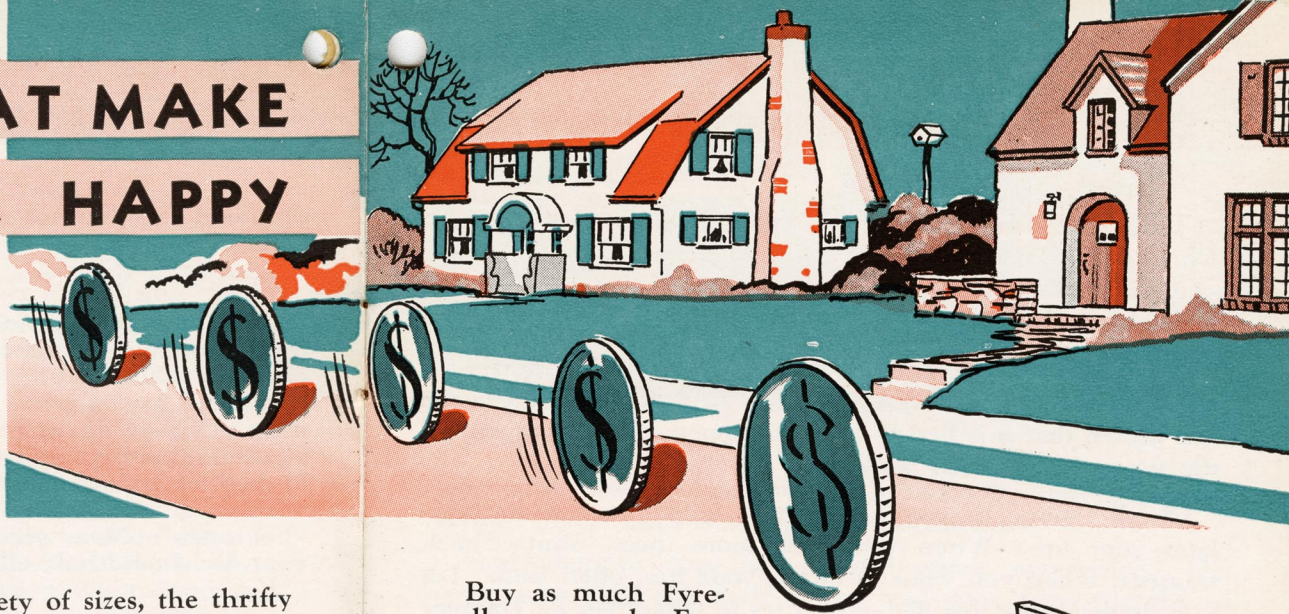
Because Reading Super-Clean Anthracite comes in such a great variety of sizes, the thrifty purchaser is able to select the sizes which mean greater economy in his heater—and which give him better heat at the same time.

Recent experiments with Reading Super-Clean Anthracite have disclosed the fact that you can make *big savings* on your fuel bills and have better heat by firing the large and small sizes in alternate layers.

Under this method, called the Econoway, Furnace (formerly known as Egg), and the new small size, Fyrewell (formerly known as Pea), are considered the best sizes to use.

Fyrewell, when spread over Furnace-size, sifts down between the larger lumps, fills up the excess air spaces and makes a more compact fuel bed.

By firing the Econoway, you get longer burning fires than you can have with a single large size of hard coal. You get better radiation, because your fire will burn more uniformly. You get *more economical heat* because Fyrewell—the smaller size of Reading Anthracite you use—is much lower in price than the larger sizes, and it brings down the average cost of your fuel.

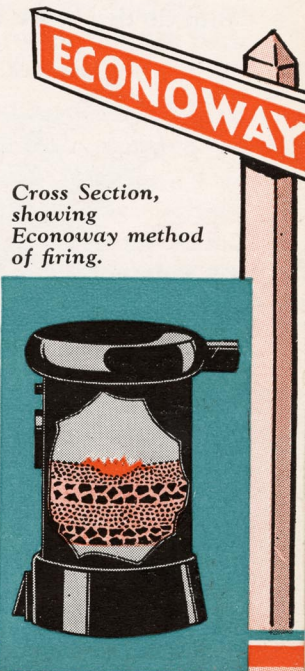


Buy as much Fyrewell as you do Furnace coal this year. We have both sizes ready to deliver to your home. Try the Econoway and be convinced that it means bigger savings and satisfaction.

How to Fire the **ECONOWAY**

Start your fire by the ordinary method, and build up a bed of coals of Furnace size Reading Anthracite. Then cover with a layer of Reading Fyrewell, except for a small "hot spot" that should be left uncovered to facilitate burning.

Continue to fire alternate layers of large (Furnace) size, then of the smaller size (Fyrewell) whenever the fire needs attention. A little practice, and you'll be surprised to find how easy it is to fire this way!



Cross Section,
showing
Econoway method
of firing.

TRAINING *the* DAMPER FAMILY

There are four members of the damper family—Ash, Check, Feed and Chimney. If you work them properly, you will get better, more economical heat and a fire that lasts much longer.

Ash Pit Draft Damper has the job of admitting nearly all the air needed for burning Reading Anthracite. Experience has shown that it is best to keep him open, or partly open, all the time, except when banking.

Check Damper is a very important fellow because he regulates your fire. When you need more heat, shut Check Damper; when you want to check your fire, open him. Let him do this work unaided—don't try to make Ash Pit Damper

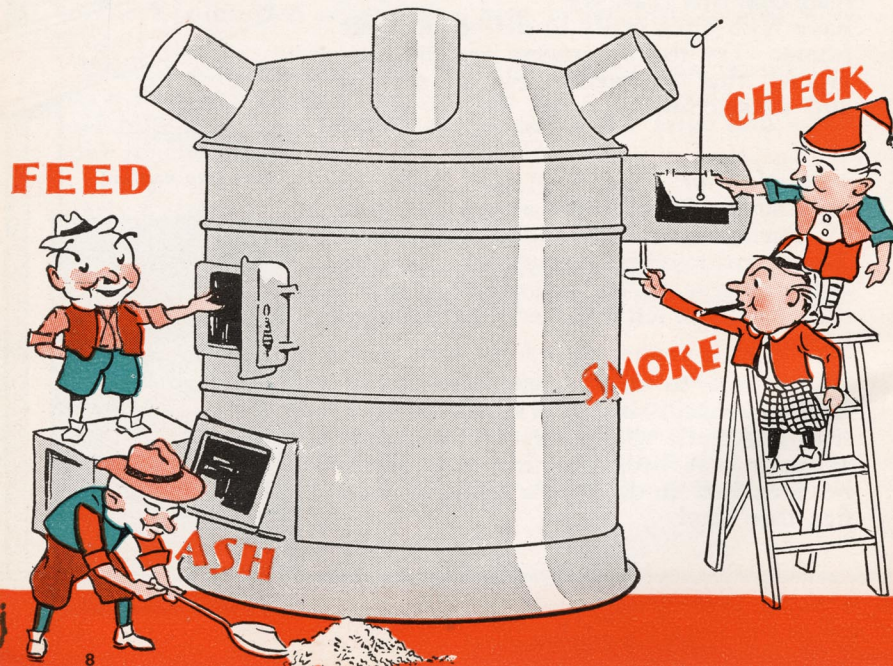
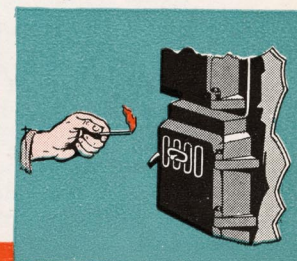
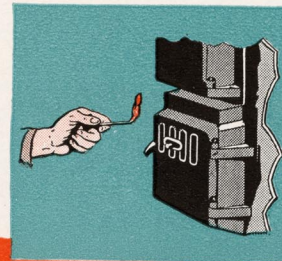


help him. Get to know Check's habits by setting him in various places until best results are obtained.

Feed Damper does not require much supervision. His work is to keep the draft in the feed door open slightly, so that it will supplement the air taken in through the fire bed. Once set, Feed Damper will do his work faithfully.

Chimney Pipe Damper is not found on all furnaces. When present, he hides inside the pipe leading from furnace to chimney. During mild weather, it is generally good practice to keep Chimney Pipe Damper about a quarter of the way open, gradually increasing the size of the opening as the weather grows more severe.

When the flame of a match is drawn into the furnace at the feed door the least, that is the minimum closed setting of your dampers for banking a fire overnight (figure at left). When the flame is blown away from the furnace (right), gas which otherwise would be burned will be wasted.



Little Rules That Mean Greater Heating Satisfaction

In the following pages, you will find specific rules for handling hot air furnaces, steam heaters, hot water plants and kitchen ranges. Before going into these rules, however, it is well to give careful attention to some general considerations.

General Rules

- 1** Wrap all heat pipes in the basement completely with asbestos or similar covering. This prevents loss of radiation.
- 2** When shaking grates, use short, quick strokes to sift the ashes through the grates, leaving the grates in flat position when through shaking. Clean ash pit daily, to prevent damage to the grates. In severe weather, shake grates until a glow appears in the ash pit; in moderate weather, a bed of ashes should be carried on top of the grates.
- 3** Do not poke or slice the fire bed—such practice causes draft holes and clinkers.
- 4** Do not shake a fire that is low until you have added some fresh coal and given it time to ignite. A thin fire is wasteful of coal.
- 5** Turn off heat in unused rooms whenever possible. It is well to keep bedrooms cooler than living-rooms. If you have a hot water system, make heavy radiator slip covers and put these covers over the radiators when radiators are not in use to prevent freezing.



Hot Air Furnaces

- 1** Make sure that the firebox of your furnace is gas-tight. Cement all cracks or put in new sections before winter sets in—if you do not do this, gas will get into the air jacket and be carried to your rooms. Tap the chimney pipe—if you do not hear a hollow sound all around, have the soot cleaned out.
- 2** See that the hot air pipes have a good pitch upward, and are of sufficient diameter. Identify the pipes leading to various rooms by marking or labeling the pipes. Then you can shut off certain rooms at the furnace when you so desire.
- 3** To insure a return circulation from all rooms to the air intake of the furnace, provide cold-air drops from upper floors.
- 4** The water container in the air jacket should always be filled with clean water. Moist air conducts heat much more readily than dry air.

Handling a Steam Heater

Keep the water in your boiler clean. At least every spring and every autumn change the water completely.

Whenever you attend to the fire, look at the water gauge, or gauges. Be sure to read carefully the instructions that come with your boiler and follow them exactly if you desire the best and most economical heat. If the instructions have been lost, write to the manufacturer for another copy. Proper handling of your equipment is most important. The average boiler has three stop cocks on the water gauge. The level of the top of the water must always show at some point on the gauge, usually at the second cock. The temperature of the water causes the height of the water in the gauge to vary. But if the water rises above the top of the glass, it is a signal that there is too much water in the boiler and that some must be drawn off. Try the exhaust cocks above and below the gauge occasionally to make sure that the gauge is not clogged, or the openings to it from the boiler closed up. These openings must be kept open.

Try out the exhaust valves on your radiators occasionally, and, if they are not working, clean with a pin or soak in kerosene. Always keep the boiler flues clean.

Hot Water Plants

Always be sure that there is plenty of water in the system. If in one of your upstairs rooms, or in the attic, there is an expansion tank, be sure that you know where it is, and ascertain that the water always shows in the glass gauge up to the indicated level. Air in radiators interferes with the free circulation of the water. When the first fire of the season is built, open up the exhaust air valve of each radiator with the radiator key, letting all the air in the radiator escape. *Repeat this operation at least once every week.*

In a properly operated hot water system, there will usually be very little loss of water. When the water in its heating has been allowed to boil over at the expansion tank, do not let cold water into the system. To do so would probably cause a cracked heater section. The way to replenish the water is as follows: Cool down the fire by adding fresh coal, closing the draft damper and opening the feed door. As soon as the temperature of the water has dropped to 80 degrees, add a sufficient amount of fresh water to raise the level in the expansion tank to the proper point, and feed the water slowly.

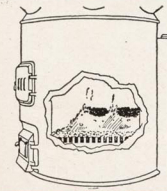
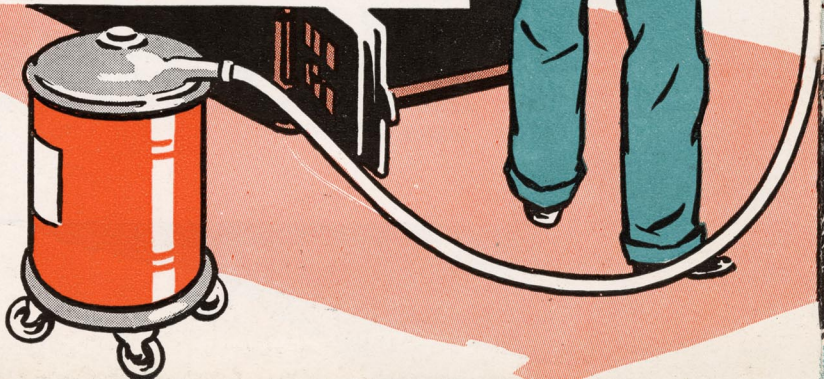


Clean Your Furnace Once a Year!

Every well-kept house gets a thorough "going over" at periodical intervals to make sure that it is basically clean. It is just as important to have your furnace thoroughly cleaned at least once a year.

A dirty furnace is a wasteful furnace. It wastes money because it cuts down the amount of heat you can get from a given quantity of fuel. In a dirty furnace, radiation is impaired because heating surfaces are "insulated" by the dirt that clings to them.

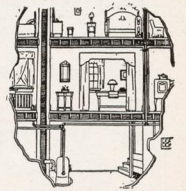
Just as you clean your rugs by sweeping them or going over them with a vacuum cleaner, so are furnaces cleaned either manually or by the vacuum method. You will be surprised to find how quickly and easily furnace cleaning can be accomplished by a man who knows his business. You will be surprised, too, to learn how much more heat you get from the same amount of coal after cleaning has taken place.



1 Wrong Firing Methods
Fuel waste is usually due to improper firing.

2

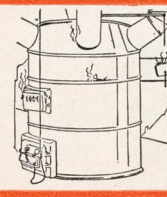
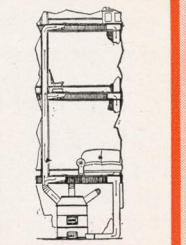
Undersized Heating Plant
Undersized furnaces or boilers cannot heat properly, and waste fuel. Oversized equipment means heating economy.



3 Improper Draft
Chimney faults, causing improper draft, account for 80% of all cases of insufficient heat.

4

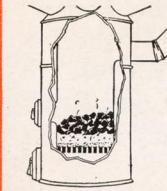
Insufficient Circulation
Hot air systems often fail to heat because air circulation is blocked.



5 Faulty Equipment
No fuel can give satisfaction if your heating plant is in poor condition. It is easy to make it right.

6

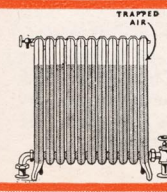
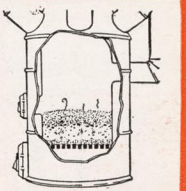
Clinker Troubles
Clinkers cause poor heat. They can be prevented.



7 The Wrong Size of Fuel
Grates and fire-boxes in heaters function best with certain sizes of fuel. The proper size should be checked.

8

Wrong Methods of Banking
Banking fires by using anything but fresh fuel is false economy. The right methods give you more heat at less cost.



9 Air-Bound Radiators
Uncomfortable, cold rooms are caused by air-bound radiators in steam or hot water systems. A simple test reveals this fault.

10

Insufficient Radiation
Too few, or too small, radiators or registers mean poor heating even though the heater is big enough.



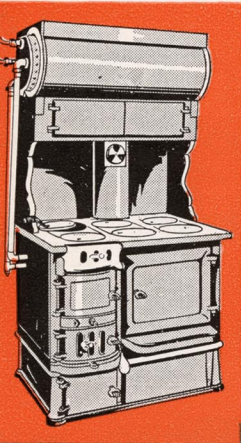
Making a Range Perform

Next to the open fireplace, the kitchen range has a glamour of romance that is part of our Canadian tradition. The warm, cheery glow of "Mother's kitchen"—the savor of good things cooking—the gleam of pots and pans—are memories that live in the hearts of many of us today.

It is easy to operate and care for a kitchen range, if certain things are observed. Cleanliness is important for efficient operation. The entire stove should be cleaned often, inside as well as out. The ash pit should be emptied daily in order to prevent damage to grates. Stoke the range frequently, and in small amounts. Never shake a low fire until a little fresh coal has been added and given time to ignite. The tea kettle, with its cloud of steam, keeps the air moist and healthful.

The kitchen range has a great mild-weather advantage, since it permits the main heater to be closed, the range furnishing sufficient warmth to "take the chill off the house." In addition, the range reservoir insures a convenient hot water supply. For use in kitchen ranges, Reading Chestnut and Reading Fyrewell (pea-size Anthracite) are the preferred sizes.

It is wasteful to let the fire in a range go out at night. The picture shows the proper method of banking a range fire with Reading Fyrewell. The stove lid nearest the chimney should be left partly open, in order to admit the minimum of air to the fuel bed. If a front lid is left open, too much air is admitted.

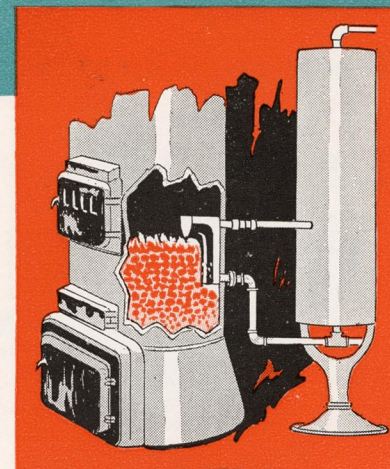


HOT WATER ALL THE YEAR ROUND!

Plenty of hot water is one of the greatest conveniences of a truly comfortable home. And, in cases of sudden illness, or where there are children, hot water is often indispensable.

With Anthracite, you can have hot water all the year round, at amazingly small cost. Common practice shows that ONE TON of Fyrewell (pea-size Reading Anthracite) will supply the average family with hot water for an ENTIRE YEAR!

The pictures on this page show the use, for winter months, of a device for furnishing hot water directly from the fire pot of your furnace, and a tank heater for summer months, insuring that you will always have hot water when you want it.



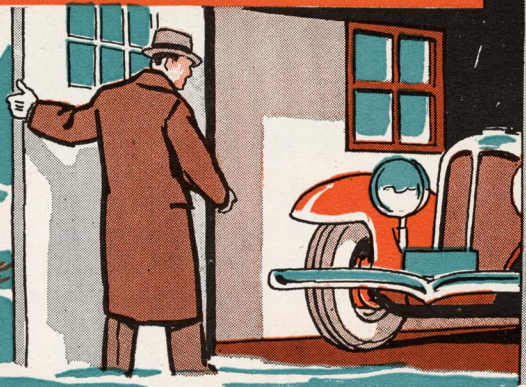
Device for furnishing domestic hot water supply directly from fire pot of furnace.



Kitchen Tank Heater

ANTHRACITE HEATING

for
Detached Garages
at
Suburban Houses

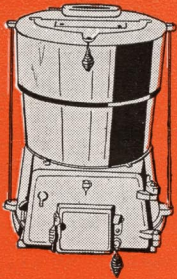


Your garage is always comfortable if you use Anthracite.

Entering a cold garage and then stepping into a cold car are not among the most pleasant of early morning tasks. A small Anthracite heater—purchased at the expenditure of only a few dollars—will pay for itself many times in comfort and in the prevention of damage through freezing.

In detached buildings of any kind, Anthracite heating is particularly satisfactory because of the fact that Anthracite requires so little attention, burning dependably for long hours. Anthracite, too, minimizes the danger of fire and has no fumes or odors to make the air unpleasant.

Inexpensive small Anthracite heater for use in garages and outbuildings; also for domestic hot water supply.

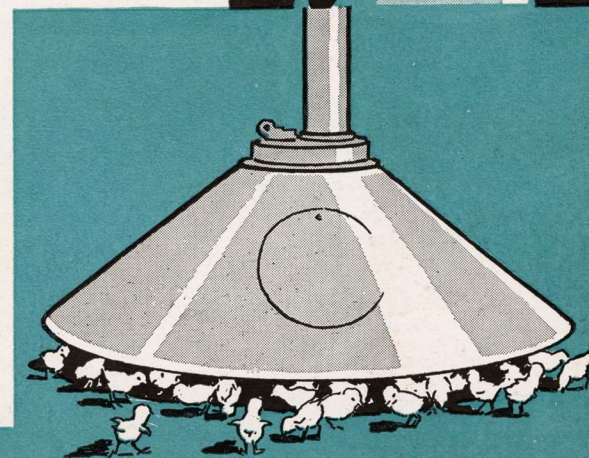


Have You a Thermostat?

Anthracite, the long-burning, dependable fuel, lends itself especially well to thermostatic control.

A thermostat is a heat regulator, a device which makes it possible for you to better maintain the temperature you want in your house.

Famous Reading Anthracite is also a safe economical fuel for Brooder Stoves.



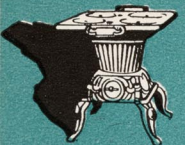
BURNING ANTHRACITE

With Your Present Equipment

One important reason for the economy of Anthracite is its great flexibility of use. This means that you can enjoy the superior heating satisfaction of Anthracite without changing your present equipment. The illustrations at the left show just a few of the many heating devices now on the market which burn Anthracite.

Magazine Heaters—Automatic Stokers

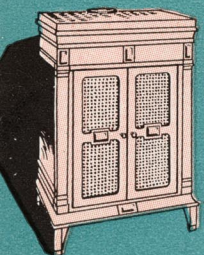
If you replace your present heater, be sure to investigate magazine or self-feed heaters and automatic stokers. Reading Anthracite in such types of heaters provides as nearly perfect heating as it is possible to get at an economical cost. Automatic Anthracite heat has none of the dangers or discomforts of other types of automatic systems which burn liquid or gaseous fuel. At your request, we shall be glad to recommend automatic, domestic stokers which have been thoroughly tested and are reliable.



Laundry Stove



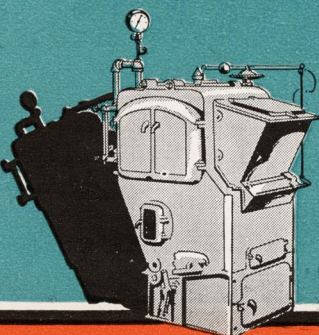
Room Heater



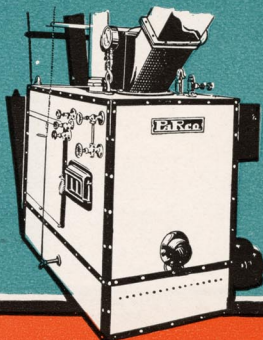
Parlor Furnace



Base Burner

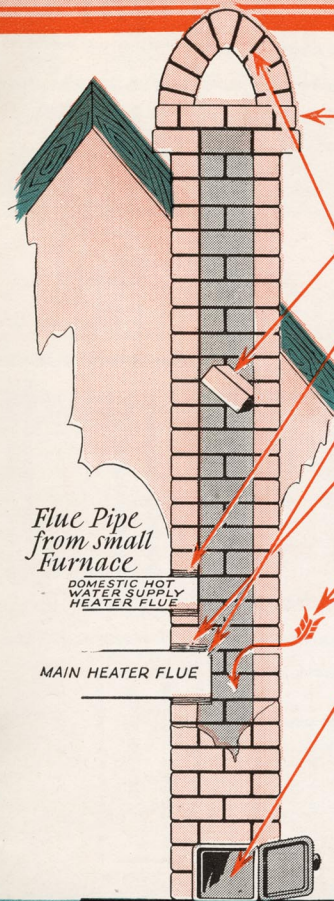


Magazine Heater



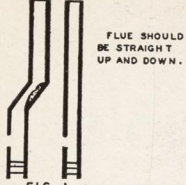
PaRco

See That Your Chimney Is Free From These Troubles

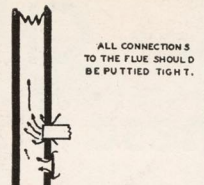


FAULT	REMEDY
Chimney too low	Extend Chimney
Obstructions	Remove
Open Space Around Flue Pipe	Make Air Tight
Flue Pipe extends too far into Chimney	Flue Pipe should be even with inside of Chimney
	Close Chimney Damper on other Furnaces when not in use
Chimney Cap	Remove
Chimney Cracks	Cracks should be filled
Clean Out Door loose or open	See that Clean Out Door is always closed and Air Tight

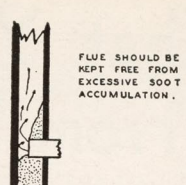
Investigations show most complaints on the quality of coal are caused by faults in the chimney. This chart, and the "pointers" on the following page, will help you to locate and correct such faults.



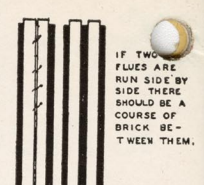
FLUE SHOULD BE STRAIGHT UP AND DOWN.



ALL CONNECTIONS TO THE FLUE SHOULD BE PUTTIED TIGHT.



FLUE SHOULD BE KEPT FREE FROM EXCESSIVE SOOT ACCUMULATION.



IF TWO FLUES ARE RUN SIDE BY SIDE THERE SHOULD BE A COURSE OF BRICK BETWEEN THEM.

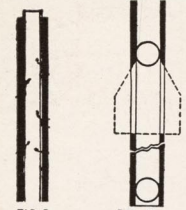


FIG 5 A FLUE THAT LEAKS IS A FIRE-PLACE ON THE SAME FLUE.



FIG 6 DON'T PUT A FIRE-PLACE ON THE SAME FLUE.

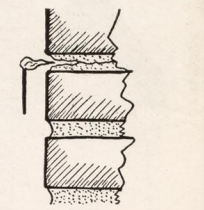


FIG 7 HOW TO LOCATE A LEAK IN A CHIMNEY WALL.

More POINTERS *on* CHIMNEYS



CHIMNEY OPENING SHOULD BE FREE AND UNRESTRICTED.

FIG 8 EFFECT OF POORLY DESIGNED FLUE CAP.

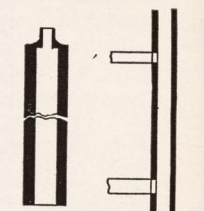


FIG 9 ANOTHER POOR FLUE CAP.

FIG 10 DON'T PUT A RANGE OR STOVE ON THE SAME FLUE.



FIG 11 HOW TO USE A MIRROR TO LOOK UP A FLUE.

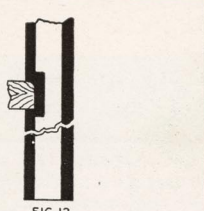
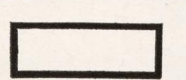
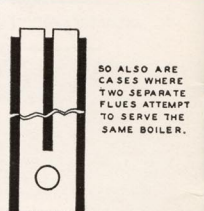


FIG 12 FLUE RESTRICTION CAUSED BY JOIST RESTING ON CHIMNEY WALL.



ODD SHAPED FLUES ARE TROUBLE MAKERS.



SO ALSO ARE CASES WHERE TWO SEPARATE FLUES ATTEMPT TO SERVE THE SAME BOILER.

FIG 14

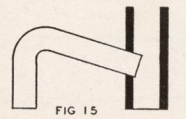


FIG 15 A SMOKE-PIPE SLANTING AS THE ABOVE MEANS ADDED DRAFT RESISTANCE.

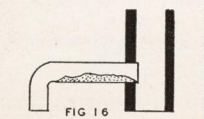


FIG 16 A SMOKE-PIPE WITHOUT A CLEANOUT WILL ACCUMULATE SOOT.

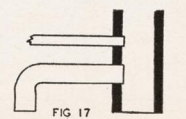


FIG 17 A WATER HEATER VENT SHOULD NOT BE PUT INTO THE BOILER FLUE.

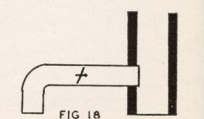


FIG 18 BE SURE DAMPER HANDLE GIVES TRUE INDICATION OF INSIDE DAMPER POSITION.



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