



# **Heating the farm home. Bulletin no. 61**

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# WISCONSIN BANKERS' FARM BULLETIN

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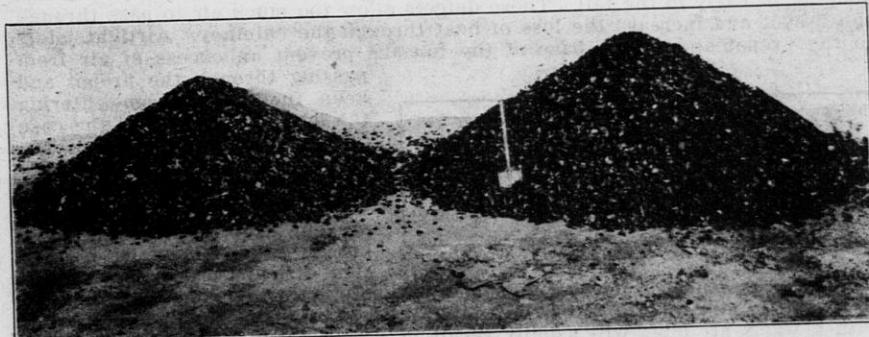
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## Heating The Farm Home

By

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With Good Installation and  
Careful Operation.

With Poor Installation and  
Careless Operation.

### WHICH PILE WILL YOU HAVE TO BUY?

Either will heat a dwelling of the same size to the same temperature for the season. It all depends upon who feeds the furnace.

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File this bulletin where you can find it

Distributed by

**Wisconsin Bankers' Association**

Burton M. Smith,  
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# Heating The Farm Home

Many fuel bills may be reduced by a fourth or even a half. Next winter, whether we heat our homes with stoves or plants, we will need to save fuel.

A good heating system, properly installed and carefully operated, will furnish twice as much heat to the rooms, from the same amount of fuel, as many systems now in use. A cheap or worn out heater will waste enough fuel in a few seasons to pay for a good heating plant. See that you get an efficient heater, when you buy, and have a reliable contractor install and guarantee your heating plant.

## GET FURNACE READY FOR WINTER USE—NOW!

A heater should be inspected during the summer. Warped or broken parts, cracked castings, poor fitting doors should be repaired or replaced this summer or early in the fall. These defects allow too much air to pass through the firepot and increase the loss of heat through the chimney. Airtight joints in the firepot and at the base of the furnace prevent an excess of air from

passing through the firepot and keep fuel gases from entering the heating chamber in the case of a hot air heating system.

The heater and all pipes whether hot air, steam, or hot water, should be insulated to prevent heat loss. Pipes for a hot air system must be of sufficient size and properly arranged.

**SAVE COAL** this coming winter  
by putting your heating plant in  
first class condition **NOW**.

If you find difficulty in heating a room, a larger pipe to this room may remedy it. A return pipe, placed along the ceiling in the basement or near and parallel with a warm air pipe, will usually result in a poor circulation of air between the heater and rooms.

## A STRAIGHT CHIMNEY SAVES HEAT

A good chimney is essential to the successful operation of the heating plant. The chimney flue should be straight from top to bottom and the walls airtight throughout. A leaky chimney has poor draft and heat is wasted to secure the draft.

It may be difficult at times to secure sufficient combustion to heat the house. The smoke pipe from the furnace must not project beyond the flue lining of the chimney. The projection would obstruct the smoke passage. The top of a chimney should be higher than the ridge of the roof or any nearby object to prevent down drafts.

## FURNACE MUST BE BIG ENOUGH—BUT NOT TOO BIG

The heater must be of the proper size to heat the house well. A furnace which is too small will require undue "forcing" in extreme weather and may not be able to heat the house to a comfortable temperature. "Forcing" a fire means wasting fuel and a shorter life for the heater.

Too large a heater will operate to the best advantage only in cold weather. In mild weather it may be difficult to keep the entire grate covered with live coal without overheating the house. A partially covered grate allows an excess of air to pass through the firepot and increases the loss of heat through the chimney. Heating contractors or manufacturers of heating apparatus should be consulted regarding the proper size to install.

#### PUT ON WEATHER STRIPS AND STORM WINDOWS

**A well built house is easily heated.** The use of insulating material in the construction of the house aids in keeping it warm in the winter. Weather strips keep out cold air and save fuel. Storm sash well fitted are even more effective. Loose fitting doors and windows should be repaired. They allow a large heat loss. Hot air heating systems are usually provided with both a fresh air and a return cold air duct. The fresh air duct should be closed and the return air duct opened when only a few persons are in the house. This will avoid heating a large quantity of cold outside air and the heater will operate with less fuel. There will be enough air leakage around doors and windows to provide ventilation for a few persons. For a number of occupants, the fresh air duct should be used in preference to the return duct, or both ducts might be left partly open. When using the fresh air duct, ventilation may be aided by opening a fireplace damper or providing some other means of escape for the foul air.

#### MOIST AIR "WARMER" THAN DRY AIR

**Moist air saves fuel.** A moist atmosphere at a temperature of 65° F. is more comfortable than a dry temperature of 72° F. This difference will effect a saving of about 15 or 20 per cent in fuel.

**SAVE COAL by operating your heating plant economically. Burn less coal and utilize a large percentage of the available heat.**

water pan as usually installed in the outer casing of a warm air furnace is not effective because too little vapor is given off. The evaporating pan should be placed at the top of the heating chamber just above the dome. A large surface of water should be exposed to the air of the heating chamber. A special valve attached to a steam radiator allows the escape of sufficient steam into the room to moisten the air. The only practical means of adding moisture to the air, when using a hot water heating system or coal stove, is the keeping of a pan of water on the stove or kitchen range. All interior doors must be left open to allow the vapor to be distributed throughout the house. This method may appear insignificant but it is well worth while.

#### KEEP THE TEMPERATURE UNIFORM

**A heating system requires regular attention.** Aim to keep the house at a uniform temperature throughout the day and fire the furnace at regular intervals. Wide changes in room temperature require complete checking or excessive draft for the heater. This lets heat escape through the chimney. Infrequent firing of large amounts of fuel allows the escape of large quantities of unburned gases which is wasteful. A furnace regulator assists in keeping the house at a uniform temperature and this aids in saving fuel.

The loss of fuel through the grate may be reduced to a minimum by allowing ashes to accumulate on top of the grate. This will also protect the grates from being warped by excessive heat. The amount of ashes to leave on

the grate depends on the draft required. Shaking the fire after light appears in the ash pit may waste fuel by permitting partly burned fuel to drop from the firepot. A deep fire bed allows the absorption of the greatest amount of heat by the heating chamber and prevents the formation of "dead spots" which cool the fire. The top of the fire bed should be kept even with the firing door in cold weather.

A size of coal which will not readily fall through the grate should be selected. Screened coal of the large sizes is most satisfactory where difficulty is encountered in obtaining sufficient draft. Opening a window in the basement may increase the draft at times.

#### **SOFT COAL CAN BE ECONOMICALLY USED IN AN ORDINARY FURNACE**

As soft coal is heated large quantities of combustible gases are released. Proper conditions must be maintained in the heater for the combustion of these gases or they are lost as smoke and represent a considerable fuel loss. To secure the maximum amount of heat, soft coal must be fired frequently. Before adding a charge of green coal push part of the live coal back to make room for the new charge. Do not cover more than half of the grate with green coal. Leave the draft door at the ash pit and the draft slide in the firing door open. The latter adjustment allows air to enter at the top of the fire bed. The air mixes with the gases and the mixture burns as it comes in contact with the flames from the live coal. After most of the gases have been driven off, spread the charge over the entire grate and close the slides in the firing door. Regulate the draft and check damper so as to secure the proper room temperature. If both hard and soft coal are used in the same heater, best results

**SAVE COAL** by using wood for fuel. Many farmers can save money by burning wood.

can be obtained by firing with soft coal during the day and banking the fire with hard coal at night.

#### **WOOD IS THE CHEAPEST FUEL TO USE ON MANY FARMS**

Farmers who have a woodlot can effect a big saving by using wood in place of coal. Wood can be cut during the winter when there is little farm work to do. Wood can be burned successfully in an ordinary furnace. Its use requires more frequent firing than with coal, but a wood fire will heat a house more rapidly. It may be found difficult to "hold fire" for any length of time unless all joints and doors of the heater fit practically airtight. Banking with ashes will reduce the draft and "hold the fire" for a longer period. Wood burning furnaces can be purchased which will burn wood of cord lengths. These heaters are designed to burn wood at a much slower rate than the ordinary furnace and therefore less frequent firing is required.

#### **GET READY TO SAVE FUEL THIS WINTER**

Save coal this coming season by putting your heating system in first class condition before autumn. Substitute wood for coal if practical.