The Forgotten Arts

Yesterday's Skills
Adapted To Today's Materials

Book Four

- Making Ice Cream
- Installing a Woodstove
- Maintaining a Clean Chimney
- Building a Community Skating Rink
- Herbal Medicines
- Building a Driveway
- Making Maple Syrup from Scratch
- Reclaiming Your Garden Soil
- Building Bridges
- Solar Drying Fruits and Vegetables
- Growing and Processing Flax

From YANKEE® Magazine

YANKEE® BOOKS

THE FORGOTTEN ARTS: BOOK FOUR

Like the other volumes in this popular Yankee series, this book contains ten chapters, each describing one of the "forgotten arts" listed on the cover — how best to resurrect once well-known skills using equipment and modern materials that are readily available today.

In many cases, written sources for the skills described here have never existed, most having been passed down from craftsman to craftsman or else lost in the mists of time. Easy-to-follow instructions explaining each procedure step by step, along with graphic diagrams, drawings, and photos, combine with evocative, nostalgic passages to give a different twist to the standard how-to-do-it volume.

These handy and economical little books are packed with information and expertise that show you how to make or do yourself more than fifty useful products or projects.

Start a Forgotten Arts bookshelf today! You'll be glad you did.

Cover design by J Porter and Chris Tremblay
Cover illustration by Patrick Blackwell

The Forgotten Arts

Yesterday's Skills
Adapted to Today's Materials

Book Four

Edited by Edie Clark

YANKEE® BOOKS

Camden, Maine

Grateful acknowledgment is made to Luther S. Clark, Jr., for information for the chapter on building bridges.

Illustration Credits:
Chapter One: drawing by Jill Shaffer; photos by Edie Clark. Chapter Three: photo by Debbie Stone. Chapter Four: drawing by Jill Shaffer. Chapter Five: drawings by S. Carl Traegde. Chapter Six: photos by Edie Clark. Chapter Eight: drawings by Jill Shaffer. Chapter Nine: photos by Jean Heavrin. Chapter Ten: drawings by Jill Shaffer.

First Edition 1979
Sixth Printing, 1991

Library of Congress Catalog Card Number 75-10770
ISBN 0-911658-95-5

Table of Contents

The Chimney Connection
Part One

SAFETY IS THE MOST IMPORTANT consideration for the homeowner who is thinking of converting to wood heat. Fire is always a lurking threat — even more so in the country where help is likely to be farther away — if your stove is not properly installed and if your chimney is not in sound condition. The right stove and a solid chimney are the two most important ingredients in safe wood heat. Once you've got these two, then every conceivable precaution must be made to assure the safe installation, operation and maintenance of your wood heat system.

SELECTING A STOVE

Before you select any stove, you should have a clear idea of what the stove's function will be: the amount of space you want to heat, whether or not it will provide all your heat and whether you want it to be decorative, functional or — ideally — a combination of the two. There are more than a thousand models of stoves available at this writing so it is essential to know what you want. Investigate all possible products. Compare construction, costs, efficiency, size of stove in proportion to the living space you need to heat — even looks. Don't hesitate to solicit opinions from other stove owners. Someone who has lived with a particular model of stove usually has a pretty clear idea of the stove's good and bad points.

The abundance of stove models comes from a variety of sources. Established companies have rejuvenated old models, new companies have duplicated once-popular styles or designed new ones, foreign stovemakers, primarily Scandinavian, have been attracted to the booming woodstove market in America and

have made substantial contributions to the perfection of the airtight stove, and, of course, older stoves continue to be available.

Be forewarned that although many antique stoves, carefully tended and maintained, have lasted for many years, some of the more recently manufactured stoves probably won't see more than a few seasons of use. They have been hastily designed, poorly constructed and are made of metal that is of questionable quality and thickness. The only real advantage to these stoves is their low price — an immediate savings yet, in comparing prices, you should always be aware that a well-made, cast-iron stove, appropriately cared for, can last you a lifetime.

The older stoves can't compete with the new, airtight stoves in terms of BTUs, but if you have your heart set on an antique stove, you may be lucky enough to find one in mint condition — but be prepared to pay for it. And inspect it very carefully for hairline cracks. You can get a good idea of how "airtight" the old beauty is by dropping a light through the stovepipe opening and darkening the room. Cracks and unnecessary spaces around the door can't hide from the light. Aside from being free from cracks, any stove you select should have all its parts and they should all be in working order. Replacement parts for old stoves are difficult to come by, although sometimes you can find a local welder to restore the stove or manufacture new parts. Another consideration with an old or used stove is the color of the metal: a stove that has been operated continuously at high temperatures will show a whitish metal discoloration, indicating that improper operation may have weakened the firebox. Although rust will appear on any stove unless it has been carefully tended, this is usually a minor problem and can be eliminated with a wire brush and several coats of stove blacking. Periodic polishing is standard stove maintenance.

If you have an existing flue thimble in your chimney, be sure you know its size before you go stove shopping. Also, be sure you know the measurements from floor to the bottom portion of the flue, an especially important consideration if you're planning to vent the stove into a fireplace, which is lower than many stoves. Some models may have to be eliminated from your list of potentially desirable stoves simply because they won't fit. Your stovepipe must always be either level or running slightly upward, never sloping down into a flue.

Prices for new stoves vary, although all are higher than they were a few years ago. Some people may hesitate to spend as much as the $400 to $800 being asked for some American and many foreign-made stoves. This can be translated into a considerable amount of fuel oil even at today's prices. However, buying a woodstove is not an annual outlay. The cost can be depreciated for as long as the stove is functioning efficiently. Often the more you spend at this initial stage to assure safety, the greater the result in savings — possibly including your house and health. And

it's also helpful to keep in mind that, at today's market, stoves do hold their value.

Woodstove stores are mushrooming right along with the manufacturers and a helpful guide to just some of the many new stove models available is Woodstove Directory, 105 West Merrimack Street, P.O. Box 4474, Manchester, NH 03108. This is a 360-page, annually updated directory that costs $3.50. It includes photographs and information such as comments from the manufacturer, stove dimensions, size of firebox, weight, flue size, construction materials, heating capacity and address of manufacturer or distributor.

INSTALLING THE STOVE

Before you buy, you should already have a good idea of where and how your stove will be installed. Until recently many stoves were sold without a word of advice as to how they should be installed and many a homeowner unwittingly took his life in his hands by backing the stove up against a combustible wall, as if it were any other piece of furniture, and plugging the stovepipe into hair-raisingly dangerous chimneys — or worse, sticking the stovepipe out the nearest window. Some early wood heat converts often wonder why they're still alive. Observing the following points will insure a good, safe and efficient installation.

- Stoves are heavy. Before bringing one into the house, check the underpinnings of the floor and add additional support if necessary.

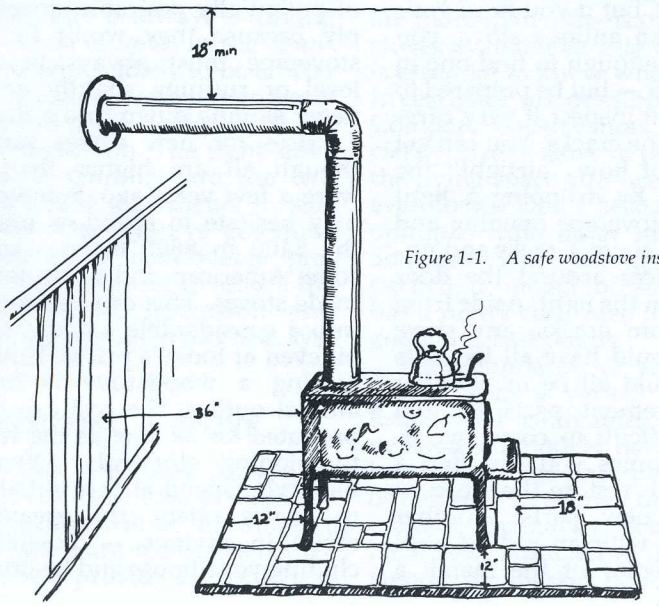

Figure 1-1. A safe woodstove installation.

- Woodstoves are radiant heaters and must be kept at recommended distances from all combustible materials. Wood, wallpaper, many kinds of fabric, most kinds of paint, furniture and even the woodpile itself are all potential fire hazards. A free-standing stove must be 36" from the nearest combustible material in any direction. If gypsum, plaster, asbestos, stone, or brick is used for wall sheathing, most stoves can be brought to within 12" of the wall. If the wall is solid masonry, back the stove right up to it.
- A noncombustible hearth should be provided under the stove and extend 18" out from the firing door, 12" out on either side. This might be a piece of asbestos encased in tin which can be purchased at most hardware stores. Or you can make an attractive hearth out of marble chips, shells, crushed gravel, brick, slate, etc., laid on a metal or asbestos firestop and cut to the proper dimensions.
- Common carbon steel or galvanized stovepipe should be 18" from walls and ceilings. The Shakers often located their woodstoves toward the center of the room and led a well-supported stovepipe at a slight angle under the ceiling to the chimney vent. This method provided added surface for additional heating, but at the same time it increases the hazard of excessive creosote build-up. The longer expanse of pipe permits greater creosote condensation at the cooler end, resulting in greater threat of chimney fires. The shortest length of stovepipe possible is really the wisest installation.
- The firebox should be protected with a bed of fine-grain sand, two inches deep. This layer of sand should always be there to protect the stove bottom from burning out, so be careful not to scoop any of it out when cleaning out ashes or coals.
- Be sure to couple your length of stovepipe so that the fittings project upward to prevent creosote from dripping down the pipe onto your floor. As an additional precaution, you may want to screw each fitting together with self-tapping or pan-head screws. Over a period of time, the subtle vibrations produced by the heat of the stove and movement in the room can loosen these fittings without your noticing it. With the screws in place, this is one less thing for you to worry about. Also, should creosote inside the pipe ignite, it will cause the pipe to vibrate violently, thus uncoupling the stovepipe lengths if they aren't screwed together — and vastly increasing your chances of fully involving the house in a fire, which can remain contained in the chimney.
- Stovepipe should never pass through combustible ceilings or walls unless proper precautions are taken and recommended distances observed. Double- and triple-walled pipe are safe to use and easy to install. Even with a good fire going in the stove, they will only feel slightly warm to the

touch. Manufacturers list specifications for clearances. If you don't use a pre-built chimney, cut a hole in the wall or ceiling which provides 18" of clearance around the pipe and fill this hole with noncombustible insulating material or brickwork.

- Try to position the stove as close to the center of your home as possible. Installing a stove at the far end of a wing, for instance, drastically cuts its heating potential. Most new stoves will tell you how many cubic feet you can expect it to heat and you should try to take advantage of as much of that output as you can.
- Do not put the stove near an existing thermostat if your woodstove is to be used for auxiliary heat. This creates an artificial temperature on the thermostat and will hamper the efficiency of the total heat system.
- Be sure to keep open kettles on top of the stove at all times. Wood heat is dry heat and extra moisture is essential.
- To assure good draft, your chimney must rise two feet above the ridge of the roof or two feet higher than any projection within 10 feet of it.

EXCEPTIONAL INSTALLATIONS

Your woodstove should not be vented into the same flue that's being used for either the central heating (oil furnace) vent or a working fireplace. This interrupts good draft and can be hazardous: gases can be drawn downwards and into the house while you are asleep. If you decide to vent the stove through the overmantle of the fireplace, you will be giving up the use of the fireplace. This may be a loss in terms of aesthetics — though true woodstove devotees will argue that point — but it's no loss in terms of heat efficiency. Fireplaces are only about 10 to 20% efficient in their conversion of wood to heat while stoves are from 30 to 80% efficient.

Another possibility to consider, if you are willing to give up the use of an existing fireplace but do not have a flue opening above the mantle, is venting the stovepipe up through the fireplace itself. Forms with a stovepipe collar attached are now commercially available. They will close off the fireplace opening, leaving a thimble for your stovepipe. The form should fit snugly against the damper in your fireplace. If you choose such an arrangement, be sure that the form is attached securely and made airtight by filling all cracks with furnace cement.

If you do not have a chimney at all, or cannot use an existing one safely without extensive renovation, you can beat the problem by installing a new chimney altogether. This can be either masonry (brick, stone, composition blocks) which would require a mason or a metal, pre-built chimney. *Never* try to avoid the expense by venting your stovepipe through a window sash. This merely courts disaster.

Masonry chimneys start from below frost level on a poured concrete footing and are built up; factory-built metal chimneys are sup-

ported from the roof and hang down.

Money, time, and labor can be saved by installing a pre-built chimney. These triple-wall (usually stainless steel liner, aluminized steel inner wall and galvanized steel outer wall) chimney pipes are not quite as safe nor as attractive as the masonry chimney but in certain situations, an indispensable innovation. Several nationally known companies manufacture them and provide installation instructions that can be carried out by the average homeowner.

All stovepipes and pre-built chimneys should be inspected periodically during the heating season. Stovepipe is as essential a link in your wood heat chain as the stove or the chimney. Use 24-gauge stovepipe, if possible. The higher the number, the thinner the metal and some pipe that's available is cheesy and not worth your money. Clean your stovepipe every year, replace it every other year, and keep a special eye on any horizontal sections, where creosote collects. Creosote is highly acidic and corrodes metal. Many stove owners have been dismayed to find the bottom of a horizontal section of pipe corroded through — even while the stove is still in operation.

— *Richard M. Bacon*

Part Two

THE SAFE CHIMNEY

After all the effort of selecting and installing the stove best suited to your needs, be forewarned that your stove is only as good and as safe as the chimney you connect it to. Aside from all the considerations necessary for your own peace of mind, most home insurance policies stipulate that coverage can be suspended if a homeowner knowingly or negligently increases the "hazard of loss" on his property. What this means in the case of a woodstove is that it is your responsibility to observe all local fire ordinances (contact your local fire department) when installing a stove. Should you fail to do so or if the stove is installed in what could be con-

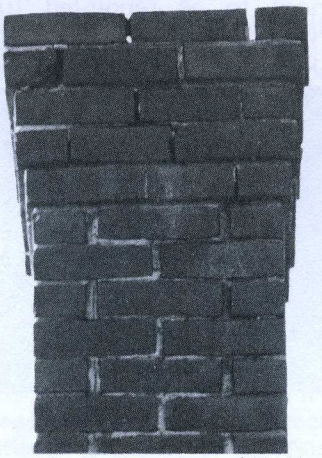

Figure 1-2. The top ten courses of this chimney badly need repointing.

sidered a hazardous fashion and a fire occurs that can be attributed to the woodstove, your insurance company will probably not be liable for the damage.

Existing chimneys can often be used to vent a new stove. However, certain checks and precautions must be taken first.

If your chimney is lined and less than fifty years old, your chances are good that a good sweeping or maybe nothing at all is all that's needed. But if the chimney is unlined and old, as was the case with chimneys in many homes built around the turn of the century, you'll probably have some major structural repairs to make. Or the chimney may have to be abandoned or completely rebuilt.

There are several ways you can check the condition of your chimney without the help of an expert. First check the top of the chimney: if the bricks are loose (see figure 1-2), they need to be repointed (this involves removing all the loose bricks down to the level where the bricks are solidly in place and rebuilding it from there), a common and relatively inexpensive chimney repair.

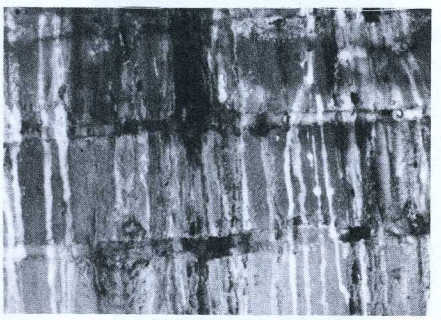

Figure 1-3. A close-up of a chimney with possibly terminal creosote damage. The acidic creosote has eaten away at the mortar joints, making them porous and a fire hazard.

Stains on the masonry, resembling long streaks of black ink (see figure 1-3), are telltale signs of mortar that has become too porous, which is dangerous because it allows the flammable creosote to exude from the inside of the chimney out — often to floors or walls which is extremely hazardous in the case of a chimney fire.

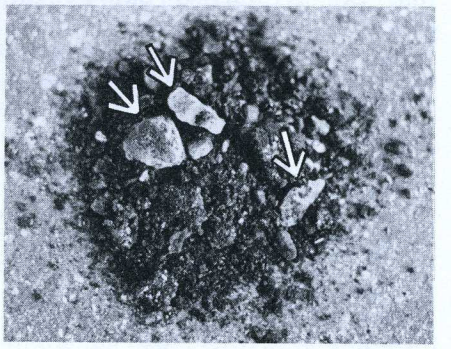

Figure 1-4. Arrows indicate deteriorated mortar that has come loose with the creosote during routine chimney cleaning. This is a sure sign of chimney problems.

Another telltale sign can be found in the clean-out door at the base of the chimney: sift through the soot collected there — if bits of mortar are present (see figure 1-4), this means that the joints are deteriorating and the entire chimney should be inspected.

Another check for deteriorating mortar joints can be done with some helpers, and only if your chimney has some exterior access (what makes a chimney so hard to