

Old House Mysteries

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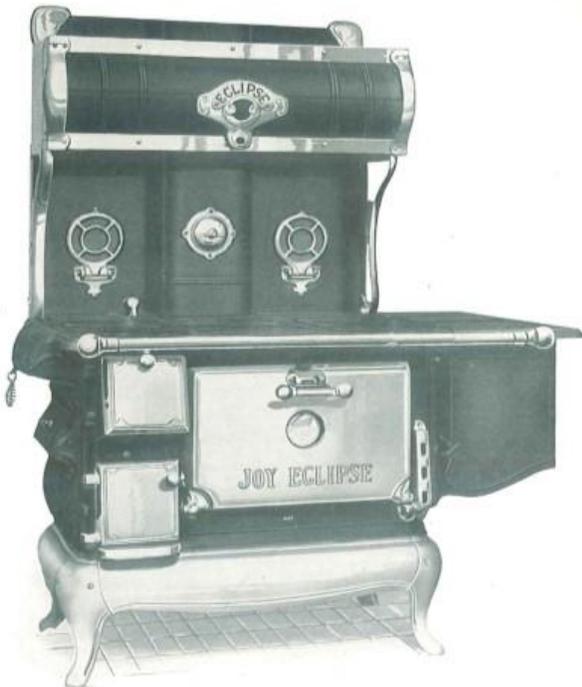


Living in a home that was built in 1911, I wonder how it provided for the basic creature comforts 100+ years ago. I see remnants of older systems that once existed here. Perhaps, if you live in an old house, you have similar "artifacts" to explain how your home once worked.

These systems, which were essential to the comfort of occupants and the functionality of a home, were some of the first to be upgraded and replaced when newer, better, or more economical versions came along. Prior to the modern systems currently in place, how did my home provide heat, lighting, plumbing and hot water? Fortunately, there are clues all around the house, and with a little research we can discover more about these systems and how they worked.

The Kitchen

Let's begin in the kitchen, the place where we gather, cook meals, talk, eat, open mail, or do homework. Today's kitchen is often large, open, bright, and clean. It frequently serves as an extension of our living and dining space. Historically, kitchens also served many of these same functions, but food preparation was from scratch using natural and unprocessed ingredients, refined through intensive manual labor. Surely the sights and smells might have been overwhelming at times, and not particularly attractive to family or guests of a refined home. More than 100 years ago, kitchens were often hot, sometimes dirty, and mostly utilitarian in nature, in some respects more like a furnace or utility room than the typical kitchen of today. They were not a place that you would invite guests to sip wine or graze a charcuterie board on a gleaming granite countertop, while you chop vegetables or put the final touches on



1: Image from *Eclipse Stoves, Catalog No. 26: Illustrating Cast and Steel Ranges, Cast Cook, Heating Stoves for Coal and Wood and School Heating Apparatus*; n.d., c.1913.



2: Abandoned kitchen chimney. Note the circular patch in the center where the original stove pipe would have been.



3: Cistern behind house.

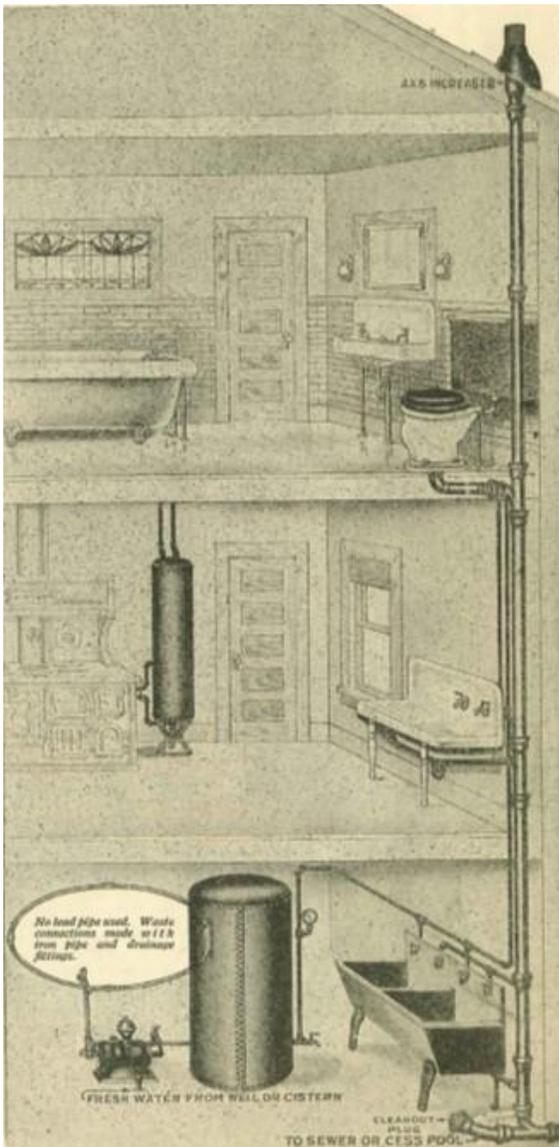
tonight's dish. Sure, there would have been a range or stove to cook food, but it was a beast compared to a modern gas or electric. Gas ranges, which had been invented in the nineteenth century, gained popularity in the teens and twenties in cities where natural gas was available; electric ranges coming about a decade later. Up until that time, a typical kitchen range used either wood or coal, which produced ash and soot and was a daily chore to stoke. While the extra heat given off by the range provided comfort in the winter, it was an unwelcome waste in the warmer months of the year.

In my kitchen, a chimney remains, which gives some clue to the approximate location of the range, which had to be vented. Since my home was outside of the city and gas ranges were still in their infancy, the original kitchen range was likely designed for wood or coal fuel.

Hot Water

What about hot water? Did the occupants a hundred years ago have to heat it on the stove? In some homes that would be the case, in others a water tank or boiler was associated with the kitchen range to provide a means to circulate, heat and store hot water for washing and bathing. Of course, water would be heating only when the range was in use. For homes that were fortunate enough to have indoor plumbing, the bathroom was necessarily located close to the source of hot water. The 'model' configuration had a range in the kitchen with adjacent tank and supply pipes going to the kitchen sink, bathroom above, and laundry sink in the basement below. This stacked arrangement of plumbing makes sense for ease of installation, to minimize the length of water and soil lines, and to connect fixtures to a single sewer and vent pipe at the same location.

Coincidentally, the bathroom in my house is located on the second floor, directly above the kitchen. The water supply pipes pass through the area where the range would have been originally located, feeding both the



4: Image of plumbing system from *Montgomery Ward & Co. catalog, Economy in Plumbing, n.d., c.1920.*



5: Unknown pipe in basement floor, presumably an earlier well used with a pump and pressure tank, prior to the extension of city water service to the area.

bathroom above and a laundry sink in the basement below. A cistern behind the house, which was fed by the roof gutters and downspouts, supplied soft rainwater for laundry by a separate faucet. My home, which was built in a quickly growing area near the city, was 'modern' for the time.

Heating

I wonder how my home was originally heated? There is a fireplace in the living room, but it was designed as a mostly aesthetic feature and (at best) a supplementary heat source. By 1911, a modern home had a central furnace as the main source of heat for the colder months of the year. My furnace is located in the basement, with ductwork supplying heated air to registers in each room of the house. The current system is gas-fired with forced hot air via a large fan in the unit. It includes a condenser outside to provide central air conditioning for the hot summer months. This is likely the third heating fuel used to feed my home's furnace. In the basement and outside, there are remnants of older fuel delivery and storage equipment, including an abandoned coal chute and an empty heating oil tank still in the corner of the basement.



6: Pipe for filling the heating oil tank (left) and coal chute door (right)

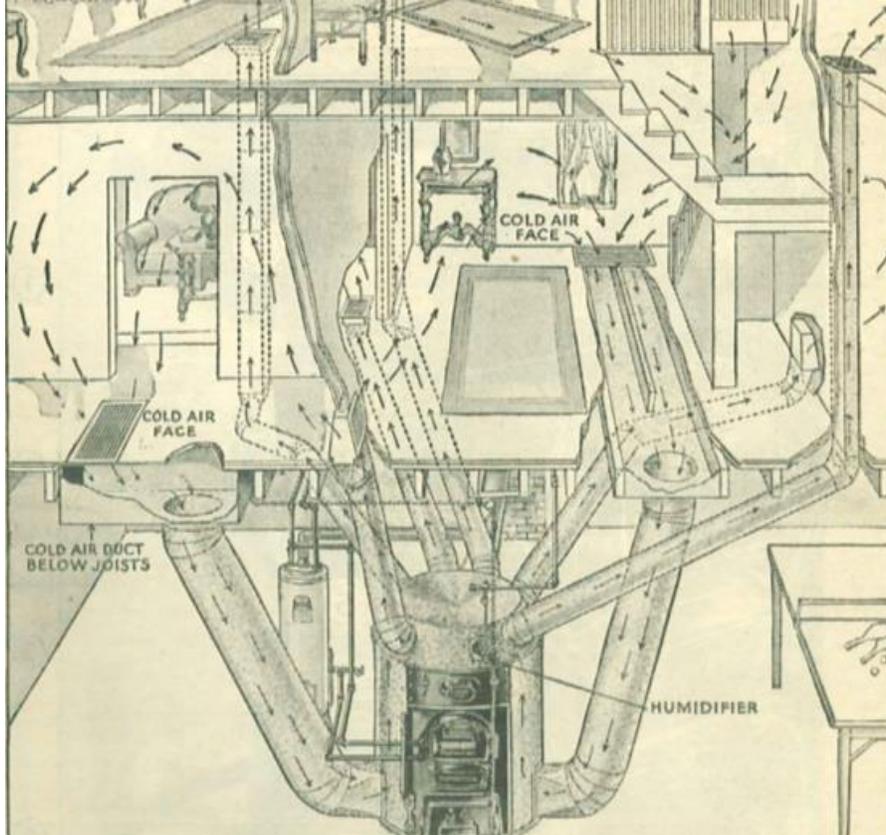


7: Majestic Coal Chute



8: Coal chute and abandoned (empty) heating oil tank

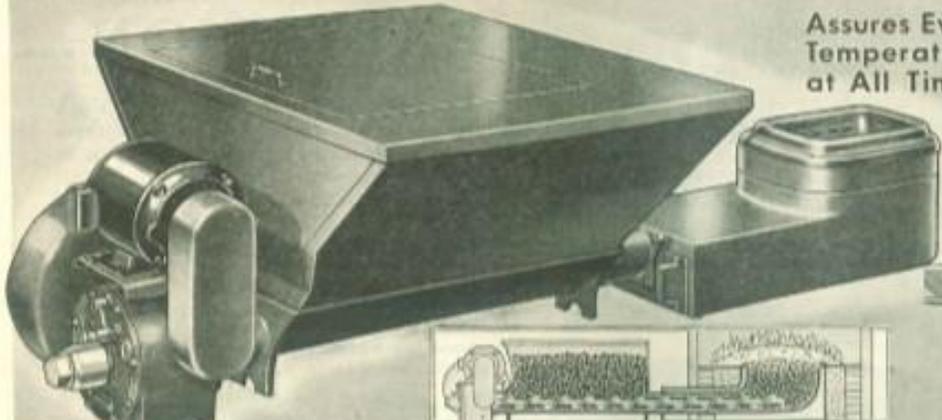
The original furnace was likely a warm air pipe system designed to burn coal, which was widely used by the late 1800s until the 1930s, when heating oil began to displace coal as a popular alternative. Coal was delivered to the basement of the house via the coal chute, and manually fed into the furnace daily by the homeowner. Some were fortunate enough to have an automatic coal feeder or stoker, although you would still have to regularly feed it, though not as often, and remove the clinkers and ashes from the furnace periodically.



9: Warm air pipe furnace system illustrated in Ward's Complete Catalog of Plumbing, Heating, Building Materials (1935).

As heating oil gained popularity, many former coal furnaces were converted to burn it, eliminating the need to stoke the furnace and remove ashes- a significant convenience for the occupants. Later, these furnaces were often replaced by more efficient natural gas units in the 1950s and 60s. Newer advancements are geothermal, electric, and solar.

Automatic Coal Heat with Wards Stoker ELIMINATES HAND FEEDING . . . CUTS HEATING BILLS



Assures Even Temperature at All Times

Clean heat . . . automatic heat . . . with coal, the cheapest of all fuels! Wards offer you a modern, up-to-the-minute Automatic Coal Stoker to relieve you from dirt and the unpleasantness of frequent trips to the basement. This stoker asks just one thing: that the hopper be filled occasionally with coal.

Not just cleaner . . . more convenient . . . Wards Stoker fires its fire, far more economical than hand stoking. It burns the small sizes of coal, which cannot efficiently be used by hand. Coal costs less in these sizes, yet you get more heat from it than from lump coal, hard fuel. Tests show this stoker will reduce your coal bills 50 to 70%. It is 40 to 70% less expensive to operate than an oil furnace; 50 to 80% less expensive than a gas furnace.

Most important of all are the advantages of forced circulation. As shown in the small diagram above, the fuel screen forces coal upward, under the fire. Coal is slowly pulverized, volatile gases passing upward, through the fire where they are burned. Colored coal is burned when it reaches the top. There is no smoke. No soot, fuel waste, or ash. A fine clean chimney forms around the fire and is easily removed with a brush specially provided.

Wards stoker is adapted to any kind of heating plant—warm air, steam, or hot water. Automatic Controls are furnished which maintain any desired temperature. A touch of your hand on the wall thermostat and the Stoker automatically changes the temperature in your house. All parts have been made heavier and stronger than in the general practice to insure long life, 300-lb. capacity.

\$195⁰⁰ Cash Price
\$20 Down
\$12 a Month

Hopper and duct are of heavy copper bearing metal. Conveyor of one piece cast metal chrome alloy steel especially designed for this severe service.

The sturdy electric motor drives the feed conveyor through a carbonized alloy steel worm gear. All gears are totally enclosed in an oil bath providing unusual lubrication. Multi-blade fan provides a force draft to burn fuel most economically.

Easily installed—the entire job can be done in a few hours. We furnish complete instructions. Complete with all automatic controls—thermostat, high-limit control and load-fire control—and chimney reverse bracket. Operates on 110 to 115-volt, 60-cycle A.C. Monthly Payments on Page 4. Freight Charges on Page 3 under "Purchase Filings." For larger installations, write to Wards Free Engineering and Service Department, 5101 W. complete 430 lbs. Shipped separately from factory in Chicago.

381 HD 1330—Complete \$195.00

Completely Enclosed Stoker

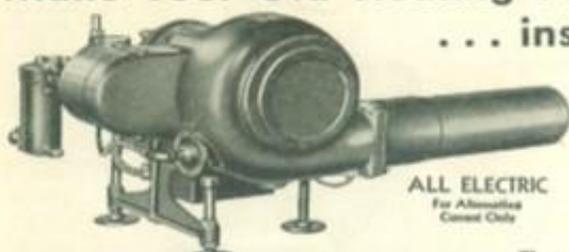
381 HD 1335—Same unit with hopper, motor, gear-box, and blower completely covered by one case. Not down. Ship. wt. 500 lbs. \$219.00



For Budget Plan See Page 3

10: Automatic coal feeder offered in Ward's Complete Catalog of Plumbing, Heating, Building Materials (1935).

Make Your Old Heating Plant Lead a CLEANER LIFE ... install a Wards OIL BURNER



ALL ELECTRIC
For Automatic
Control Only

No shoveling, no waiting for the fire to "burn up," no dust, no ashes. It's entirely automatic! Start it... set your thermostat for the temperature desired, and the fire will burn only long enough to reach the desired temperature... then it stops automatically. If your room temperature drops a couple of degrees it automatically starts again. Wards Oil Burner can be installed quickly in almost any type of heating plant. Wards Oil Burner is carefully built and is as reliable in operation; that its maintenance cost is very small. You can change the temperature by moving the control pointer on the room thermostat.

It's economical as it uses low-priced oil and is exceptionally quiet in operation. Can be adjusted to heat from 5 rooms to a hotel.

These Features are Sure Proof of This Oil Burner's Quality

**Use With Steam . . . Hot Water
Warm Air or Vapor Systems**

\$157⁰⁰ Cash Price

**\$15 DOWN
\$12 MONTHLY**
See Page 3

Listed and patented by Underwriters' Laboratories, Inc., and bears their label.

Draft tube, transformer housing, motor support and pump assembly support are all part of one rigid casting.

High grade cast-iron mounted motor—meets all Underwriters' requirements.

Has Push Switch chain Room Thermostat without clock. Rider Clock or Electric Clock thermostat may be had at extra charge.

Open steel fan, Blinnon type, single size, specially balanced. Mounted directly on motor shaft, insuring quietness, and maximum air delivery.

Heavy supports adjustable to any height.



Here's How It Operates

All Parts of
Wards Oil Burner
are Standard Design
and Make... You Do
Not Have to Pay
Excessive Prices for
Specially Designed
Replacement Parts

OIL BURNER COMPLETE with Push Switch Thermostat (without clock), built control and regulation control but without oil tanks, piping or electric wiring, etc. Shows whether you have warm air furnace, hot water, steam or vapor boiler and the amount of standing radiation or warm air pipe area in square inches and we will furnish exactly the proper built control and correct size nozzle. Ship. wt. 140 lbs. Shipped from factory near Meriden, Conn. Retained Freight Charges under "Oil and Gas Burners" on Page 2. Write Wards Engineering Service Department for free information. **\$157.00**

OIL STORAGE TANKS Shipped separately from factory in Chicago, or near Philadelphia, Pa. Retained Freight Charges under "Storage Tanks" on Page 2.

381 323 7182—Standard Basement Storage Tank, with oil gauge and stand, height 27 inches, width 44 1/2 inches, length 48 inches. Cap. 375 gals. Ship. wt. 310 lbs.	\$22.45
381 323 7181—Underwriters' Labeled Underground Storage Tank. Diameter 48 inches, length 72 inches. Capacity 110 gallons. Ship. wt. 600 lbs.	\$8.50
381 323 7183—Underwriters' Labeled Underground Storage Tank. Diameter 48 inches, length 72 inches. 1300-gallon cap. Ship. wt. 1300 lbs.	\$4.00

11: Oil burner shown in Ward's Complete Catalog of Plumbing, Heating, Building Materials (1935), encouraging conversion of older furnaces to fuel oil. The catalog description explains the popularity of converting from coal to oil. "No shoveling, no waiting for the fire to 'burn up,' no dusty, no ashes. It's entirely automatic! Start it...set your thermostat for the temperature desired, and the fire will burn only long enough to reach the desired temperature... then it stops automatically."

The remnants of obsolete systems in old homes tell the story of how occupants lived and found comfort as technology changed over the decades. These artifacts represent the evolution from large, expensive and labor-intensive systems to the efficient, comfortable systems that are widespread in homes today. Through observation and a little research, a lot can be learned about these systems and how they once worked. If you live in an older home, you may find that your place has a similar story to be discovered about the different ways people found comfort within your walls through the generations.