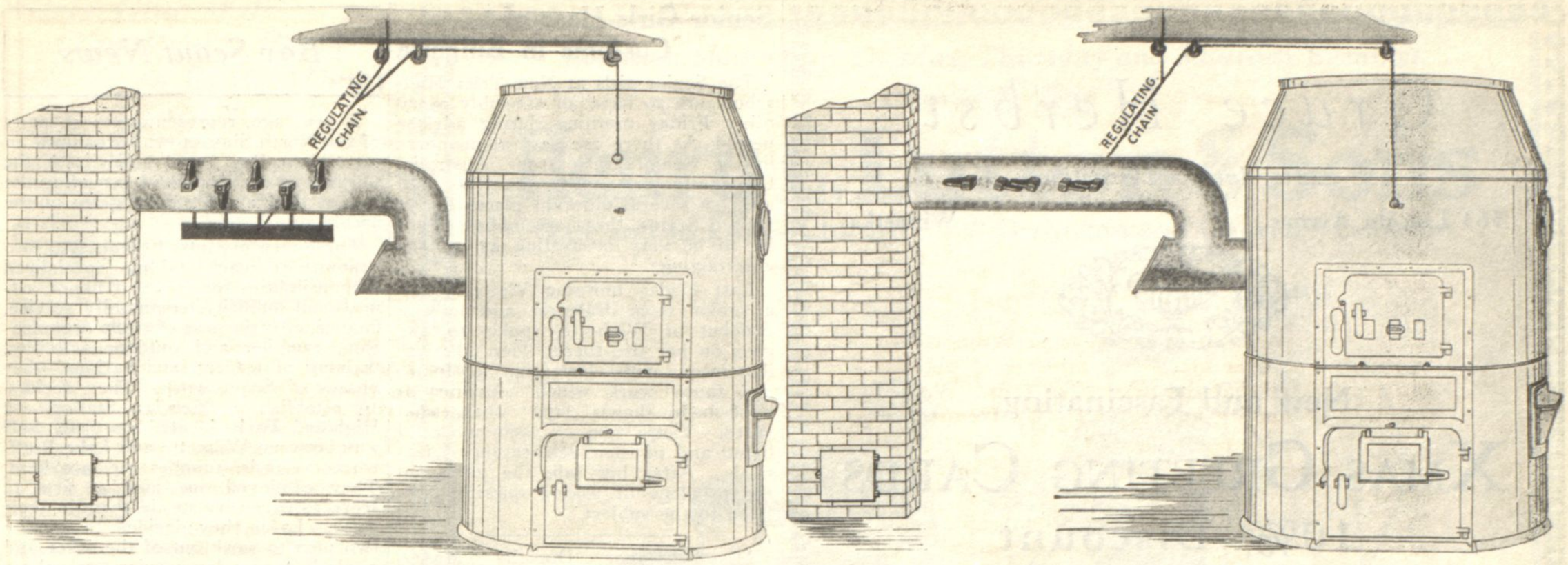

Perfect Combustion

Heat energy in lump coal is released by burning, under perfect combustion methods, such as produced through the use of the American Heat Preserver. A pound of coal will generate approximately 14,600 heat units.

Imperfect Combustion

About 99% of Coal and Coke users, at home, run their furnaces in such a manner that it is impossible to generate much more than 4,500 heat units from a pound of coal instead of 14,600 as it should be.

Why Is This!

It is an established fact that wherever coal is burned nearly half the heat which is generated goes up the chimney never to return. This loss is terrific and a steady stream of dollars and cents is passing into the chimney continuously. Every user of coal knows this, but how to prevent it has puzzled the entire nation. But science has again stepped in and after years of careful study and experiment has finally solved the problem by producing the AMERICAN HEAT PRESERVER, a device which fits inside the smoke pipe of a furnace, boiler or stove, to stop this great loss of heat from going up the chimney, and keep it in the heating plant where it belongs.

Every furnace or boiler has about the same kind of control; namely a front draft in the ash pit door to make the fire burn faster, and a check draft in the smoke pipe to check it. If more heat is desired the front draft is opened and the check draft is closed; this allows the fire to burn very freely, and, as soon as the temperature is raised to the desired point, the front draft is closed and the check draft is opened. This checks the fire, and each time it is done a great amount of heat is wasted into the chimney, and, besides, when the front draft is opened there is a great inrush of cold air, which strikes the hot bed of fuel and, in cool weather, this action will form clinkers every time, especially where the smaller sizes of fuel are used. The coal will then fuse together into a solid mass and shut off the air which should pass through the coal to supply oxygen to the gas above, and the result is imperfect combustion.

In the average heating plant when the front draft in the ash pit door is opened, large volumes of gas are generated above the fuel bed, which requires a large amount of oxygen to properly mix with it so that it can burn, but after the temperature has been raised to the desired point the front draft is then closed and shuts off completely the supply of oxygen at a time when it is needed most. This smothers the fire and the result is that the coal will glaze and form an oxidized coating over each lump of coal, much the same as an egg which is dipped in parafine and the second time that the front draft is opened and oxygen is again admitted to the fire the carbons of each little piece of coal do not release properly because they are sealed, and the final result is, that the coal passes through into the ash pit only half burned.

How Does The American Heat Preserver Overcome Imperfect Combustion?

After the Heat Preserver has been installed the check draft is not used at all. Th fire is controlled entirely by the front draft in the ash pit door, for the speed of the fire is governed by how much air is admitted through this door. If it is closed entirely the fire cannot burn. If it is opened a little it will burn slowly and will feed oxygen to the fire constantly. This is very essential for if there is no oxygen, there will be no combustion, as oxygen is one of the principal elements for a proper fire. If a thin stream of air is constantly admitted to the fire through the ash pit door, this air will gradually work its way through the ashes at the bottom of the fuel bed and is warmed before it strikes the hot fuel bed. This will prevent the formation of clinkers and the coal will not fuse together and shut off the air as it does when a fire is shaken down so much that live coals cover the entire grate where cold air strikes it and causes a fusion.

An AMERICAN HEAT PRESERVER prevents the air from passing through the fire too fast, because it throttles down the area of the smoke pipe which is the outlet of the heating plant. In doing this it holds back the gas until it is consumed and turned into heat, instead of passing into the chimney unburned and in a raw condition. This action indicates slow combustion which produces perfect combustion. In this manner the gas is released in small quantities and burns up slowly and steadily; for only half as much air can pass through the fire when the Heat Preserver is closed, as it does under the check draft method; this prevents large volumes of gas from being generated too suddenly and keeps the heat units in the lump of coal where they are extracted in a slow and steady manner; and, for this reason the fuel will last for a longer period of time than it does under the other method.

Why Won't A Common Damper Do The Same Thing As An American Heat Preserver?

Because a common damper has ever-changing positions. If closed it blocks the smoke passage and is very apt to cause explosions, and, if, opened a little, the heat immediately rushes past it into the chimney and must depend upon the check draft to kill it. Then, again, when it is closed too much, the gas, which has generated in large quantities by opening the front draft, does not burn up, neither can it pass into the chimney unburned, hence, it is apt to explode or back up into the basement and find its way through the entire house.

The Heat Preserver is easily installed, your local Tin Smith or Sheet Metal Work can perform the job. It is not necessary to kill the fire—just remove the correct length of pipe from the Smoke Pipe, and replace with Heat Preserver, which comes ready for installation.

The diameter of Furnace Smoke Pipes ranges from 6" to 10". Heat Preserver for any of the sizes—$30.00, 12" diameter—$45.00, 16"-18" prices upon request. If you will mail your order now, so the Heat Preserver can be installed immediately, you will receive the following this winter for your $30.00 investment:

A 20% to 50% Saving in Coal or Coke.

Almost uniform heat throughout the house all day. Practically no attention is required. Set the fire in the morning, Heat Preserver will do the rest. Sold under quarantee of satisfaction or money refunded.

AMERICAN HEAT PRESERVER

227 Mary St. HUBBARD WOODS Glencoe 1505