

# DOMESTIC MAGIC of the HOUSE OF LIGHT

## LONG Leaps from the Old Dutch Oven to the Modern "Wooden Stove" and the Power That Will Warm a Plate or Boil a Quart of Diamonds.

**A** MAN there was in a new home who conducted a series of experiments with various kinds of artificial illuminants, but the results were ever the same—his monthly light bills were too high.

"Would that some one would invent a way to bottle sunshine!" he cried out in despair.

"If you had a nice garden and some animal snatched in every night and ate up eighty-five per cent of your vegetables, would you kill it?" asked the young engineer, who overheard the lament.

"You bet your life I would," snorted the older man, "but what's that got to do with my regular monthly tribute?"

"It is your own fault that your light bills are too high. Every night when you turn on your lights a monster called Absorption gushes into your house and steals eighty-five per cent of your light. The wall paper in this room is dark green, the woodwork is stained a chocolate brown and the furniture and furnishings are very dark. They all combine to steal away most of your light. You have to pay for the actual light your lamps give, but in reality you get only fifteen per cent of the light you pay for, because you are being systematically robbed by the wall paper and woodwork, the chairs and the rugs."

Soon after this the house was repaired in light buff tints and the woodwork was painted white. As a result of this change the electric light bills were cut in halves. Seventy-five per cent of the candle power of each lamp was being utilized, consequently it took less than half the number of lamps to light the rooms.

Go into most any home and you will find someone following you about turning down or turning off the light, trying to economize on light and paying no attention to the costly excess which make the light bills excessive. As a rule light fixtures are stuck in any old place to suit the whims of the architect and the economies of the electrical contractor. Wall papers and paints are selected to please the eye instead of for their light-reflecting qualities. Without delving into the horrors of wall paper color and design, suffice it to say that if care were taken in this respect many a hard-earned dollar would be saved on the monthly light bills. Cheap wall paper of a dark and greasy hue is about the dearest thing any one can put into a room.

Absorption is the great enemy of light. It lurks in every shadow and bit of darkness, ready to eat up the tender light rays. The best lamp in the world cannot light up a room where a large percentage of the light rays are absorbed by the furnishings. A certain multi-colored desk in a dark-finished office required four powerful incandescent lamps combining 128 candlepower to give two-foot candles, or the required amount of light for working purposes on the desk top. When the desk was exchanged for a light oak and the walls and ceilings were finished in a light buff it took less than sixty-two candlepower to give the same illumination—a saving of half.

The following table gives some idea of the reflecting qualities of different standard colors:

Mirror	95
White blotting paper	82
Chrome yellow	62
Orange	59
Yellow	49
Pink	35
Emerald green	18
Dark brown	13
Vermillion	12
Black paper	0.5
Deep chocolate	0.44
Black velvet	0.1

### Some Ideas on Heat.

Out on the front lawn in the early evening the tiny fireflies flutter back and forth, wigwagging their love signals.



for an indefinite length of time without an uncomfortable amount of heat. Man has not yet read this simple riddle of the insect world. Some day we may enjoy light with very little heat, but until then we must go on following the excellent example of the sun, which is a great mass of white-hot material, throwing off waves into the surrounding ether, which gives us light and heat. All light from open flames comes from heat particles in the flame—it is the white-hot mantle which throws off

light in the gas lamps, and it is the little wire filament in the incandescent electric lamp, heated by the mysterious current, which gives it light.

There are as many different colors of light as there are shades of negroes in the south. The sun, high in the heavens, gives almost a pure white light, which is the goal toward which inventors are striving. The light from the north at noon has a bluish tinge. Only the very best are and incandescent lamps produce a light anywhere near akin to actual sunlight. The light from a kerosene flame is orange in color, the mantle burner gives a greenish white light, the candle produces an orange yellow light, old carbon incandescent lamps produce a reddish yellow light, with the only perfect light in the world—a light without heat. Whenever we reduce artificial light we waste more than ninety-five per cent of our energy in useless heat. For all illuminants are the result of heating materials to the white heat of incandescence.

A piece of red hot carbon large enough to give the same amount of light as the South American glow worm would burn the insect to a cinder in an instant, but this worm is capable of



lighting up its own misplaced headlight the mercury arc tube gives a greenish light, and so on down through the long list.

When considering the lighting of the home care should be taken to avoid all lights which have a reddish or violet cast, as they are most injurious to the eyes. The fixtures should be so placed as to reap the full benefit of every lamp. Don't spoil a good lamp by covering it with a light-killing shade. Many of those ornamental shades are nothing more or less than light sponges which absorb most of the light rays. In burning gas, remember to change the mantle often, as the candlepower of these lamps drops fast when the mantle begins to get old. Buy light colored furniture and see that the ceilings are nearly white and that the walls are papered with some simple paper of a very light color. Many of those dark finishes, sombre furnished rooms are miserably gloomy, dismal and depressing.

Light is fully as essential to man as air and just as much care should be taken to get good light, free from all contaminating influences, as to get the purest mountain air. Where there is no light there is no color. Nearly every one will dispute this fact and argue that red is red in the dark just as in the sunshine. A trip to an illuminating laboratory will quickly dispel this popular illusion. Red is red because it has the quality of absorbing all the rays of the spectrum but the red ones—these are reflected back to our eyes and we say the thing is red. Put this same piece of cloth under the mercury vapor arc lamp which contains no red rays and it will be black as midnight. Intense black under a yellow light looks to be yellowish olive, under a green light it is greenish yellow and under an orange light it is a deep maroon. A deep blue under an orange light is gray, slightly orange; under a yellow light it is a green black and under a green light it is green. So all the colors, shades and tints are affected by the character and intensity of the light in which we see them. For this very reason one should try to procure a light of the same strength and character as actual sunlight, with the same proportion of colors. Eyes are only devices to catch the rapid vibrations of light. There are light rays which travel too fast for human eyes to see, such as the X-rays, and others which move too slowly for us to recognize, but which enable other animals to see in what to us is darkness.

### The Hole in the Coal Bin.

Heat, the scientists tell us, is but a form of energy consisting of rapid to-and-fro vibrations among the molecules of matter. Whether this accepted theory be true or not, the average householder is ready to swear that the heat supply in the modern home is the result of untold energy represented by the dollars which vibrate through the pocketbooks to the coal man.

Fuel for heating the house and cooking the food is a very costly item in the course of a year. Coal costs about \$7 a ton in most places, and any hints which will help to get the most heat energy out of this precious material meet with the instant approval of every householder.

Let us first put on trial that black, iron-tentacled octopus in the basement! The appetite of the average house furnace would make a cannibal chief, ready to dine off the fat lady of a circus, die of envy. Coal thrown into its yawning, red maw produces nothing but ashes and backache. All the average man knows about a hot-air furnace is that hot air rises, and when it refuses to do this natural phenomenon his only resource is perspiration, profanity and more coal. But there was a man one day who reasoned that the fire was not at fault, and fell to cursing the hot-air flues. In the end he resolved to make them draw, whether or no, so he

through the greater part of the day and night. The strong draught will quickly bring up the fire when it is needed. With a poor chimney the fire has to be run at top speed all the time, wasting the coal. The coal stove should also be watched and regulated so that it "digests" the fuel, leaving a clean white ash. Some stoves do not really burn more than six-tenths of the coal. With a good chimney and a good stove well regulated there is no need to sift the ashes, for nothing that will burn will be left.

Cook stoves are only about sixty-five years old. Previous to their advent the cooking was done over a bed of coals in the fireplace or in huge Dutch ovens. In those gladsome days wood was plenty and the fuel cost was not important. In the early days of the coal stove the cost for fuel was comparatively small, but today, with our coal supply limited and the price unlimited, the cost for fuel to do our cooking is very important.

Electricity is the only thing I can recall that costs less today than it did any year in its history, owing to astonishing improvements in electric apparatus. One dollar will buy ten times the amount of electric light of a vastly better quality, than it would purchase twenty years ago. Power rates have been dropped each year as the cost of producing electricity has diminished, and wherever electric cooking is advocated a special rate at about one-third the price asked for electric light is obtainable.

In the modern electric kitchen, where the heat is applied direct to the devices and utensils instead of through the medium of a wasteful stove, the current used will approximate 300 watts a meal a person. This, translated into power rates for current, means \$1 to \$1.50 a month a person. Even this cost can be considerably reduced by the judicious use of the fireless cooker.

One family of four, where coal was used for a long time, averaged \$7.45 a



### For Matching Colors

A well lighted store is the Mecca to a woman shopping. She delights in a store where she can match fabrics easily. In buying silks, hats or any other article she wants to see what she is purchasing.

A bargain, under bright light is twice a bargain. It is a bargain in the store and continues to be a bargain, when at home she examines it closely.

The best light—electric light—pays big dividends to every merchant.

Try it and prove it.

Rogue River Electric Company.

### The Cost of Heat.

It costs just as much to keep a coal fire for a family of two as it does for a family of eight, therefore the coal fire is very economical in large families and very expensive in small families. One cannot with propriety recommend large families to lower the cost of coal a meal, so the next best thing is to add gas or electric ranges for small families, because these sources of heat show greater economies in small doses.

About thirty years ago gas ranges were introduced into the kitchen, and

month to cook the food. When gas was installed this cost dropped to \$5.12 a month, and when gasoline stoves were used the average cost per month dropped as low as \$5 a month. Now electricity is used exclusively at an average cost of about \$5.40 a month, the average cost a person a meal being 11.2 cents. In other words, for four persons it would take about four horsepower of electricity a day to do the cooking. At the special heating rates available in most places this would cost but 18 cents.



### Coal of Cooking.

The cost of electric cooking with a rate of 6 cents a kilowatt hour will not be over that of a good hard coal range and it is vastly more convenient than any kind of coal fire, where coal has to be carried, ashes removed and the fire kindled. In one family of two the electric cooking and baking was done by electricity at a cost of \$2.12 a month. Another family of three cooked with electric heat at a monthly cost of \$4.22. The electric flatiron can be operated for less than 5 cents an hour; a pot of coffee costs 1 cent to brew over the invisible fires; ten slices of bread can be toasted on the dining-room table for 1 cent; the chaffing dish can be run for 4 cents an hour; the tea kettle will boil an hour for 3 cents; the stove will keep sizzling hot for one hour for 6 cents; for 7 cents the corn popper will work one hour; the heating pad will remain warm for two hours for a single copper; 7 cents will broil a large steak; the baby's milk can be warmed half a dozen times for a cent, and so on down a long list.

electricity can be changed instantly into heat by inserting a bit of "resist-

ance" in its path. The current, under pressure, flows easily along a copper wire, but if you cut this wire and insert a bit of nonconducting wire, such as platinum, which resists the flow of the current, the electricity will work hard to get by this obstruction, and this work will change the electrical energy into heat energy. If you rub a coin briskly on the carpet it will get quite hot, because the work expended on moving the coin is changed into heat energy. In nature nothing is lost; all mechanical energy ultimately changes into heat energy and is radiated away in particles too small to be noticed.

Upon this principle, all the electrical cooking devices are constructed. A flexible cord leads the current to the chaffing dish, coffee percolator, frying pan or broiler. Concealed in the bottom of these utensils is a disk of resistance metal, which gets quite hot the instant the current is turned on. There is no waiting for slow fires. A touch of the button and the dish is hot, and at the pressure of a finger the heat is released. How fast it goes can be estimated when it is remembered that electricity travels at the astonishing rate of 186,000 miles a second.

Electricity is too costly to be wasted, so the heating units of the cooking devices are applied where they will do the most good, so that no heat will be lost by radiation. The electric kitchen is the ideal kitchen, for it is never hot, never filled with evil gases, never littered with coal and ashes and the "wooden stove" is easy to keep clean.



## Why All Progressive Merchants Are Using Electric Light

Progressive merchants everywhere have found the wonderful General Electric Mazda Lamp an immeasurable benefit to their business. This lamp radiates brilliant white rays nearly like those of the sun. This superior quality of artificial light is produced by a rare metal filament that not only radiates a perfect light, but gives nearly three times as much light as the ordinary incandescent—and costs no more to burn. It is this remarkable combination of facts that is causing thousands of people to have their houses and places of business wired for electric light. In fact, this new G-E Mazda Lamp is swiftly revolutionizing artificial lighting. It is making electricity the universal illuminant.

You owe it to yourself to at least come in and see this wonderful lamp. We can show you to your own satisfaction that this G-E Mazda Lamp immensely increases the advantages of electric light.

Rogue River Electric Company.

the meals, such as cereal cooker, frying pressure, flows easily along a copper wire, but if you cut this wire and insert a bit of nonconducting wire, such as platinum, which resists the flow of the current, the electricity will work hard to get by this obstruction, and this work will change the electrical energy into heat energy. If you rub a coin briskly on the carpet it will get quite hot, because the work expended on moving the coin is changed into heat energy. In nature nothing is lost; all mechanical energy ultimately changes into heat energy and is radiated away in particles too small to be noticed.

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A good coal stove costs about \$50, a gas stove about \$25, and an electric kitchen outfit costs \$75. This seems high for the latter, but it must be remembered that the cost included all the kitchen devices necessary for cooking

the home is the weekly washing and ironing. In the olden days, when washing and ironing were done entirely by hand, this was a long and tedious process. Today in the electric home the small motor turns the washing machine and wrings out the clothing while the housewife reads the latest novel. Centrifugal dryers, run by motor power, are made in sizes small enough for the larger home, so that the clothing can be dried as fast as washed, regardless of the weather, and doing away with all the old bother of hanging up and taking down the wash. When the clothing is dry the electric iron is ready in an instant to do the ironing. With electricity the ironing can be done on the back porch during the hot weather, with no running back and forth between the board and the hot stove after hot irons.

**THE BURGLAR'S ENEMY.**

In the confessions of a burglar recently published in the Ladies Home Journal, the man said, "Other things being equal, a burglar will always pass a house lighted by electricity. Houses so wired are practically traps for the burglar." He explained further that by pressure of a button on an upper floor, the lower one might be illuminated, and light is a bad thing for a burglar.

Send for our representative.

Rogue River Electric Company.