



SETTING new world record for England to France cross-channel swim, Amelio Couto, 33, Sao Paulo, Brazil lawyer, covers distance in 12 hours 45 minutes and 40 seconds.

Home Heating Plans Reviewed; New Systems Offer Comfort

The following article was prepared for this department by Mr. Pindell, whose firm has manufactured heating equipment for nearly 40 years, starting with heating stoves and progressing through different types of coal and wood furnaces. It now makes modern oil and gas furnaces and has most recently designed and tested what is believed to be the first practical central forced air electric furnace for homes. The firm also distributes heat pumps, and has broad experience and interest in the heating industry.

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By W. R. PINDELL
General Manager,
Wesco Furnaces

From the time of ancient man, the problem of keeping warm in the colder latitudes has been a never-ending search for greater ease and comfort. The transition from the open fire to the fireplace occupied many centuries and it has been only during the last half century that real progress toward the goal of ease and comfort has been made.

It is interesting to note that two entirely different and remote civilizations found answers that have modern counterparts, yet were overlooked by the rest of the world and forgotten, to a certain degree, even by the originators. We refer to the use by the Romans of hot water which they piped from natural hot springs to channels under the floors of their buildings, thus producing what is referred to today as a hot water radiant panel system.

The other method was developed in the Orient and may be found today in Korea, where hot flue gases are piped under the floors and released around the edge of the room. This may be considered a somewhat smoky version of our present day perimeter warm air system.

The greatest advances in domestic heating have taken place during the past 15 years. During this time, hot water heating has developed the floor, ceiling and baseboard radiant systems which have proved to be exceptionally effective in cold climates and in installations covering considerable area.

Warm Air Systems have matured from the bulky gravity type ducts to the efficient, compact forced air systems found in the majority of American homes. Possibly the biggest single advance in this industry has been the advent of perimeter heating, which releases warm air around the edges of the room.

Fuels also have gone through a transition which is still progressing. Coal, which at one time was the principal fuel for heating, now has lost nearly all of its acceptance as a domestic fuel. Wood, once a popular fuel in the Northwest, has become almost a luxury and is used principally in fireplaces for auxiliary heat or for purely decorative purposes.

Oil, which took over the market from both wood and coal, is now forced to share

its place with gas, both natural and liquefied petroleum. Since World War II, in the Pacific Northwest and in other areas of great public power development, the use of electricity for heating has gained considerable momentum. The system most generally considered is the baseboard heater which is installed around the edge of the room and heats primarily by convection currents of air circulated by gravity with a slight amount of radiation. It produces a form of heat similar to a hot water system.

Recent Application
A more recent application of electric heat is the use of resistance cables which are placed in the ceiling and covered by a thin layer of plaster. This system produces a radiant effect from the entire ceiling similar to that obtained a number of years ago by the use of hot water coils in the ceiling.

Electricity as a fuel has a number of features which attract the home owner, such as convenience, ease of control and relative assurance of availability of "fuel." Since no combustion of fuel takes place, the matter of cleanliness is assumed. In practical usage, however, it must be remembered that dust particles in the air tend to char when passed over hot surfaces and then are deposited on the nearest cold surface.

Operating Costs
The matter of operating costs for electric heat is always a good topic of conversation. Since electric rates vary considerably in various areas due to the type of distribution, it is difficult to draw any hard and fast conclusions. There is no argument, however, that the cost per therm, (100,000 BTUs) of electric heat is higher than other fuels.

A further development in the electric heating field appears to combine the most desirable features of a number of systems. Using the forced air principle of distribution and perimeter diffusers, in this new electric furnace the air is passed over a series of low temperature finned strip heaters. The amount of heat is regulated by the room thermostat according to what is needed.

The benefits to be derived from circulating air are found in the elimination of odors, controlled humidity, freedom from condensation, mold and damaged paint, paper and furnishings, and the provision of oxygen with fresh air from the outside.

Needing no flue, the elec-

tric furnace can be placed in the attic, in crawl space, hung from the basement ceiling or in an attached garage, wherever is best for efficient heat distribution, without restriction to chimney location. It also provides the home owner with the choice of including at the time of installation or at a later date both electronic air filtration and air conditioning without a major revision of the system.

The heat pump, which is still another form of electric heat, has regained much of the prestige which it lost shortly after it was introduced after the war. At that time the use of ground coils for a source of heat proved unsatisfactory. Modern units which depend upon water or air as a source of heat are proving to be quite satisfactory, and when properly installed by competent mechanics, will function with a high degree of efficiency.

Air to air units, which draw heat from the outside air and transfer it to inside the home by means of conventional forced air distribution have the greatest residential application and are available as self-contained factory-assembled units or in sub-units which are field-assembled.

Air Conditioning
Although these units have the added feature of air conditioning in the summer, the balance of heating and cooling is such in this area that additional capacity must be added to the heating cycle in the form of electric resistance heating. Although this has the effect of reducing the over-all efficiency of the equipment, the heat pump will still produce heat at half the cost of electric heating and proportionate saving over other fuels.

Through the postwar years the heating industry has developed many marked improvements in a variety of systems which will produce as much comfort as the home owner is willing to afford. The cost of good heating has been constantly reduced through mass production, new designs, new concepts and techniques. The buyer, by judicious selection of the system best suited to his needs and his pocketbook, may have year round comfort and the multitude of features which make a good heating and cooling system the heart of the home.

CONGRESSMEN IN ITALY
Milan, Italy.—Nine U.S. congressmen arrived here for a two-week visit to Italy as guests of the foreign office. The group, led by Rep. Paul A. Fino (R-N.Y.), included Reps. Silvio O. Conte (R-Mass.), Dominick V. Daniels (D-N.J.), John H. Dent (D-Pa.), Roland V. Libonati (D-Ill.), Emilio Q. Daddario (D-Conn.), Dante B. Fascell (D-Fla.), Robert N. Giannone (D-Conn.), and Alfred E. Santangelo (D-N.Y.).

STARVATION CHARGED
San Diego, Calif.—UPI—Parents of four children were charged Wednesday with allowing their 17-month-old son to starve to death. The district attorney's office charged Camp Pendleton, Calif., Marine Sam Watts Sr. and his wife, Julia Marie, with manslaughter after an autopsy disclosed Dargell Leroy Watts was in an advanced state of malnutrition at his death last month.

Wise Heat Use Will be Topic Of New Campaign

An intensive educational campaign to promote the "wise use" of electric home heating in this area has just been announced by the Cal-Ore Electrical League, in cooperation with the California Oregon Power company.

Membership in the Cal-Ore League is made up of electrical contractors, plumbers, appliance dealers and distributors, and manufacturers of electrical equipment, all of whom are supporting the program.

A growing percentage of Copco residential customers are now using electric home heating devices, spokesmen for the League point out, putting the company in a leading position in this field as compared with other utilities.

Established Acceptance
This established acceptance of electricity for heating leads the League and the utility to further acquaint the public with the advantages of electric home heating.

Emphasized in the campaign will be such electric heating advantages as year-round comfort, low operating and equipment cost, cleanliness, and safety. The campaign also covers tips on sound engineering of heating methods, proper use of systems, proper installation to cut heat costs.

The campaign will also emphasize the fact that the kilowatt hour rate paid by Copco customers using electric heat is below the national average, and that the homeowner who heats electrically has no investment in unconsumed energy or fuel storage. Electric rates do not suddenly fluctuate, so the homeowner can reasonably estimate his monthly costs in advance.

Iron Supplies More Than Ample

Denver.—(Science Service)—World supplies of iron ore are "more than ample" for the immediate future but in the long run major new sources will have to be developed. U.S. iron ore imports rose from about 2,800,000 tons, or four per cent of the ore consumed in the country, in 1946 to nearly 28,000,000 tons, or about 27 per cent, in 1958. They may be expected to reach a figure of 60,000,000 tons annually by 1965.

Most of this increased tonnage, R. W. Whitney of the Hanna Mining Co., Cleveland, Ohio, told the Metal Mining and Industrial Minerals Convention of the American Mining Congress here, will come from sources now being operated or under active development.

For example, Canada, which currently can export up to 20,000,000 tons of ore annually to the U.S. and Europe, should be capable of exporting 34,000,000 tons a year by 1965, he pointed out. As we spend greater sums to develop high-grade ores in out-of-the-way places, Whitney said, we should also spend more money for ore preparation facilities nearer home.

Farm produce constituted the entire export trade of Sierra Leone, West Africa, in 1928, but only 48 per cent of the total in 1955, the remainder being minerals.



SEPARATION SOON—Opera star Maria Meneghini Callas walks with Greek shipping magnate Aristotle Onassis in Milan, Italy. The temperamental Callas confirmed that her marriage to Italian millionaire Battista Meneghini is on the rocks and that there will be a legal separation. She said that her desire for a movie career, not her alleged romance with Onassis, caused the breakup.

Good Care of Spouse Claimed to Assure Longer Life Span

Washington.—(Science Service)—Men between the ages of 20 and 34 should take good care of their wives if they want to live a long life.

In fact, everyone should take good care of his spouse. National vital statistics based on deaths in the U.S. in 1949-51 plus the census of 1950, reveal that those persons under age 35 who are widowed have a strikingly higher mortality rate than their married counterparts of the same age.

But the poorest risk, relatively, falls to the white widowed chap between the ages of 25 and 34. His chances of dying are 4.31 times as great as are those of his married buddy of the same age, Dr. Arthur S. Kraus of the state of Maryland department of health revealed in the Journal of Chronic Diseases (Sept.). Dr. Abraham M. Lilienfeld of the Johns Hopkins University School of Hygiene and Public Health co-authored the paper.

Risk Four Times Higher
The next highest risk occurs in the age group 20 to 24. The risk for a young white man in this group is almost four times that of his married counterpart. This applies also to the non-white widowed males in the 25 to 34 age group. Their risk was 3.88.

Next on the list are widowed white females, ages 20 to 24, whose death rates were 3.70 times the rate of their married girl friends of the same age and race. Among the older age groups, 35 years and over, the death rates of the widowed, compared to the married, decreased steadily with increasing age, Dr. Kraus explained to Science Service.

Electric Heat Equipment Available in New Styles

Stanton, Va.—A new line of electric heating equipment—completely redesigned wall, floor and bathroom models—has been introduced by the Westinghouse Electric corporation.

Styled for use in today's homes, apartments, schools and offices, each of the models has a sloped control panel that is easier to read and to operate.

The wall models, available in seven sizes from 1,000 to 4,000 watts, will maintain the desired temperature within two degrees Fahrenheit over a range of 55 to 85 degrees. An aluminum-finished grill that is corrosion resistant conceals the heating elements, while the neutral tone of the charcoal and beige coloring blends with any room.

Quick Heat
Supplying quick heating for bathing or dressing, the bathroom models have an aluminum grill with an anodized satin finish. They are available in two sizes, 1,250 or

1,500 watts, with or without adjustable heat control. The floor models come in sizes of 2,000, 3,000 or 4,000 watts and are especially suited for use in recreation rooms, sun porches or work areas which are difficult to heat. The units are easily moved from room to room without requiring any installation.

Guaranteed against burn-out for ten years, the new equipment will supplement the company's completely redesigned baseboard models. Electric baseboard heating is a feature of the Total Electric Home, a Westinghouse program for modern living in which electricity operates all of the equipment in the house.

Computer Reads, Writes Numbers
Paoli, Pa.—(Science Service)—A machine can read the numbers on checks, deposit slips and other documents, process them, and select and post them to the correct customer's account.

This device using solid-state electronics is being introduced to the business world by the Burroughs Research Center here as a data system that reads and writes language that hitherto the human eye has had to handle.

A line of small numbers printed in magnetic ink along the bottom of checks can be read and processed by the visible record computer system.

The first oil-fired battleships of the Queen Elizabeth class, were launched by Britain in 1913.

Statistics from the 1950 census revealed that there were at that time, 46,830 widowed men and women under the age of 25 in the U.S. Of these, 2,200 were not more than 14 years of age.

Further study of figures from 1949 to 1951 revealed that the major causes of death for which the young widowed had a much greater risk than the married were arteriosclerotic heart disease, hypertension with heart disease, general arteriosclerosis, vascular lesions of the central nervous system and tuberculosis.

The researchers suggest these three possible explanations for the higher death rates among the widowed: individuals with a short survival potential tend to choose like mates; the widowed and his deceased spouse shared unfavorable environmental factors which led to the death of the first spouse, and finally, perhaps the grief, new worries, responsibilities and alterations in one's daily life have a damaging effect upon the widowed.

MORRIS FUNERAL TODAY
Hollywood.—UPI—Funeral services were to be held today for Wayne Morris, 45, who died Monday of a heart attack. The World War II ace pilot's remains will be cremated following final rites at Forest Lawn Mortuary in the Church of the Hills and his ashes interred at Arlington National Cemetery, Arlington, Va.

The Eiffel Tower in Paris, reaching 984 feet, has averaged one million visitors every year since World War II.

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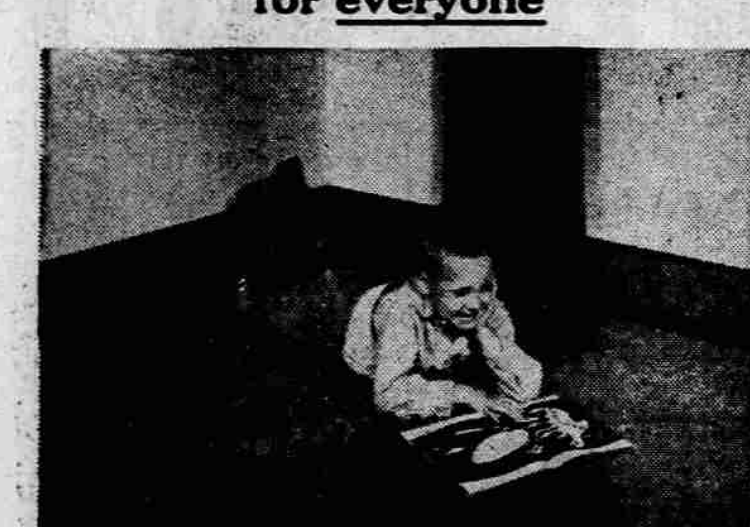
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