

LAMP DIVISION
KEENE CHEMICAL COMPANY
204-6-8 EAST 23RD STREET
NEW YORK, N. Y., U. S. A.

FOR SALE BY

PRINTED IN U. S. A.



Sunshine is Health

PALM BEACH
ULTRA-VIOLET-RAY
SUN LAMP

**MERCURY
QUARTZ
LAMPS**

**CARBON
ARC
LAMPS**

FOREWORD

ABOUT US, everyday, we see increasing evidence that the public has become "health conscious." The use of thousands of Sun Lamps and other health appliances prove an ever growing interest on the part of the public in all appliances that will increase their vigor, keep them fit and enable them to overcome unnatural conditions brought about by our present mode of living.

The benefits of Sunlight have been known to mankind almost since the world began, and have always been accepted as a matter of course. Since our present mode of living does not permit us to enjoy our full quota of Sunshine, Science has had to come to our aid. It has given us the Sunshine Lamp which brings within the reach of everyone the most potent appliance yet invented for maintaining and improving general health.

To tell the story of Sunshine and explain the various types of Sunshine Lamps on the market is the function of this little booklet.

MADE SUNLIGHT

By C. A. REED, M.D.

(Dr. Reed is Professor of Gynecology, University of Cincinnati, and former President of American Medical Association)



YOU ARE constantly maintaining your health by being subjected to more or less of the so-called ultra-violet rays as they come from the sun.

Now, however, one of the newest forms of light treatment is ultra-violet radiation derived from artificial sunlight.

New uses for this form of treatment are being reported every day. Actinic rays—the ultra-violet rays—from the sun itself have been used in medicine from the earliest times and now that they can be produced artificially their utility is considerably extended.

The ultra-violet ray is invisible but is more potent than any of the visible rays.

It is useful not only in skin disease, but in all conditions of impaired vitality and lowered resistance.

It is known that these rays are absorbed by the blood, but it is not known how they are stored nor how their energy is applied to the tissues.

They probably effect chemical changes in the blood, one of which is to raise its calcium content and concentrate inorganic phosphorus, both of which are essential to health. Ultra-violet light is strongly antiseptic, that is, it destroys germs, particularly the tubercle bacillus.

They also increase the number of the white blood corpuscles, which are a defensive mechanism against germ infection.

Their effect in relieving pain is remarkable, but little is known and used. They also stimulate important glands and render vitamins more active.

The artificial rays, it is claimed, are better than natural sunlight because they are not accompanied by the depressing invisible rays above the ultra-violet and below the red.

It is possible to administer a mathematically calculated dose of exactly the rays which are needed, and this, it is claimed, cannot be done with sunlight because of the incalculable variations in the atmosphere.

The action of the light on the skin is that of an antiseptic. Its value was first proved in the treatment of tuberculosis of the skin, or lupus.

When used with ordinary care it cannot inflict injury. It is of great benefit in anemia, rickets, surgical tuberculosis, general debility, convalescence, also in alopecia, chronic kidney disease and enlarged prostate.

It has pronounced rejuvenating properties and a marked influence on muscular agility, as reported by many observers.

It increases mental, as well as physical activity.

The apparatus consist fundamentally of an arc. The electric current passes between two terminals on a bridge of white hot particles and produces a very intense illumination. It may be formed in the open air or in mercury vapor enclosed in a quartz tube. The terminals are of carbon, tungsten or iron, sometimes mixed with other elements.

It will undoubtedly come into general use by people of normal health as a pick-me-up, and that not only in Winter, but periodically throughout the year. No habit could be more beneficial as a health measure.

The Story of Sunlight

Q. "Is Sunlight important to our general health and well being?"

A. "To realize the benefits of sunlight, try to imagine the world without sunlight for any length of time. Darkness and death would follow: human beings could not exist, most animals would perish. There would be left only perhaps some deep sea-fish, some fungus and bacteria organisms, as these are the only living things that can exist without sunshine or without foods produced in sunlight."

Q. "Do we get our proper share of Sunlight?"

A. "We do not. Broadly speaking, the sun is darkened more than half the time. In the first place, the full benefit of the Sun's Rays are obtained only during the summer months—the winter sun is much weaker—particularly in the Ultra Violet Rays. From our total sunshine allotment we must deduct, the rainy days and the foggy days when we get no sunshine at all and also remember that the full effect of the sun's rays are obtained only between the hours of eleven and three and then realize how little sunshine we actually get.

"Then there are other factors. Most of us work from 8 or 9 A. M. to 5 or 6 P. M. We leave the house before the sun's rays are very strong and we come home when their power is all but spent. We work in cities over which hangs a pall of dust, we work in glass enclosed houses and glass filters out the vital Ultra Violet Rays of Sunlight. All these factors rob us of our proper share of Sunshine."

Q. "What happens to us when we do not get our full share of Sunshine?"

A. "More or less the same thing that we see happen to plant life each autumn. The great majority of food plants are killed by the weather. Most of the trees lose their leaves and stop growing, their sap dries out and they become dormant, barely preserving the spark of life. Most wild birds migrate to warmer

climates, many wild animals hibernate. Only man and the beasts he has domesticated are left defenseless against nature. Fortunately, we store up from the summer months a reserve of vitality which carries us at least part way through the winter months. Little by little, however, the winter saps our stamina; each day our vitality is a little lower because the energy we expend is not quite replaced by the food we eat."

Q. "How is this reflected in everyday life?"

A. "It is reflected in the fact that there is more illness and more deaths in the winter months than in the summer time. The

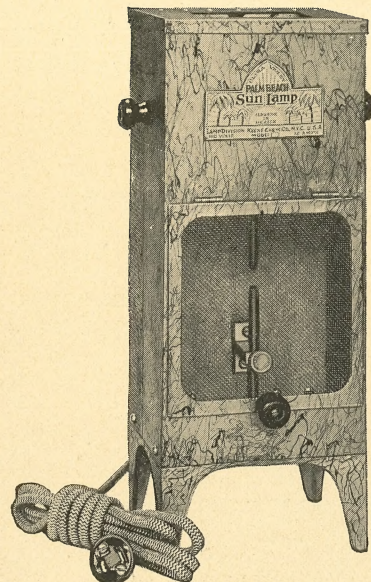


figures supplied by the Bureau of Census, Department of Commerce show that the death rate throughout the United States rises and falls in direct proportion to the number of hours when sunshine is not available. The death rate is lowest in the month of September, when we have had a whole summer to replenish our vitality and highest in March when people, weakened physically by the rigors of sunless winter months succumb most easily to disease. That proves conclusively that there is a direct relationship between our general well being and the amount of sunlight we get."

ULTRA VIOLET RAYS

Q. "What are Ultra Violet Rays?"

A. "The rays that we get from sunlight are grouped in three classes. Each is beneficial and the presence of all three is neces-



MODEL S—(Single Arc)

Dimensions for Models
D and S
14 $\frac{3}{4}$ " Height, 6" Wide
4 $\frac{1}{4}$ " Deep—Weight 8 lbs.

MODEL D
(DOUBLE ARC)

110 Volt
Either A. C. or D. C.

Fully Equipped

Price \$15.00

West of the Mississippi
slightly higher

PALM BEACH
ULTRA-VIOLET RAY
SUN LAMP

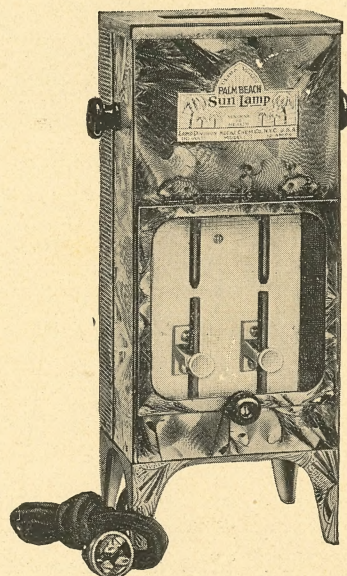
MODEL S
(SINGLE ARC)

110 Volt
Either A. C. or D. C.

Fully Equipped

Price \$10.00

West of the Mississippi
slightly higher



MODEL D—(Double Arc)

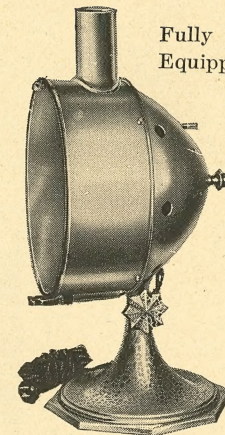


Floor
Model
Retail
\$49.50
Fully
Equipped

Dimensions: 12"
base, tubing 1 $\frac{3}{8}$ "
diameter. Adjust-
able in height
from 30" to 6 ft.
6in. Weight 23 lbs.

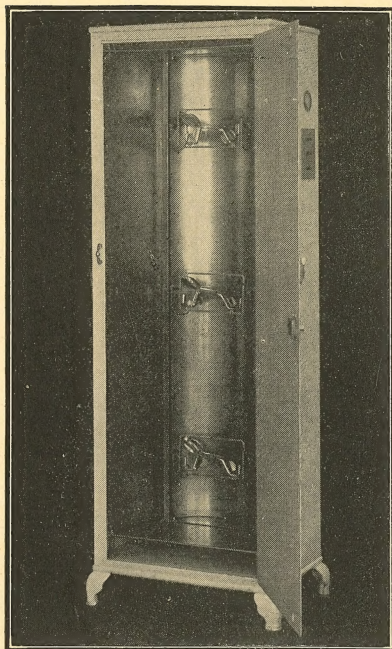
PALM BEACH
ULTRA-VIOLET RAY
SUN LAMP

Table
Model
Retail
\$37.50
Fully
Equipped



Each lamp furnished complete
with two lower carbons, 2 upper
carbons, 1 pair goggles and a
book of instructions.

Dimensions — Base 9 $\frac{1}{2}$ " diameter.
Height overall 18 $\frac{1}{2}$ ". Weight 11 lbs.



MULTISUN LAMP

(Triple Burner)
Vertical Model

110 Volt D. C.
\$500

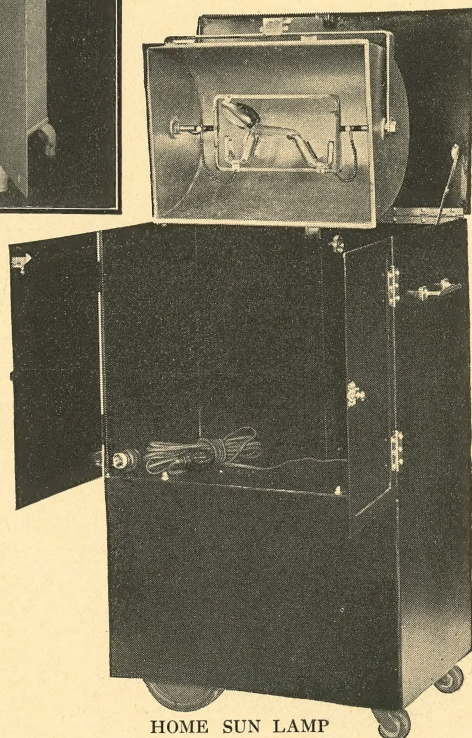
110 Volt A. C.
\$650

HORIZONTAL MODEL

(Triple Burner)
(Not Illustrated)

110 Volt D. C.
\$500

110 Volt A. C.
\$650



HOME SUN LAMP

HOME SUN LAMP

110 Volt

D. C. Model \$225

A. C. Model \$300

U. V. R. ULTRA VIOLET RAY MERCURY QUARTZ LAMPS

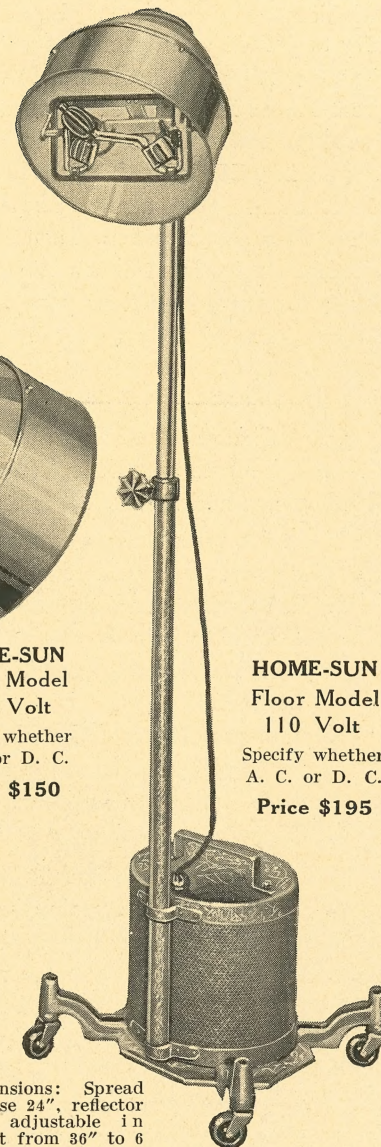


Dimensions: Base 11" diameter, reflector 12" diameter, height overall 26", adjustable in height to 36" overall. Weight 35 lbs.

HOME-SUN Table Model 110 Volt

Specify whether
A. C. or D. C.

Price \$150



HOME-SUN Floor Model 110 Volt

Specify whether
A. C. or D. C.

Price \$195

Dimensions: Spread of base 24", reflector 12"; adjustable in height from 36" to 6 ft. 6". Weight 60 lbs.

sary to get the full benefits of sunlight. First we have visible rays, those than can be discerned by the human eye. These are of great benefit in proper development of growing things. We all have seen how potatoes grown in cellars away from light, have no coloring. Second we have the Invisible Infra Red Rays. These are the heat rays and also very beneficial in alleviating pain due to any form of congestion. Then we have the Ultra Violet Rays which are invisible and the most important of the sun's spectrum. While the Infra Red Rays penetrate deeply, the Ultra Violet Rays have very little power of penetration and are easily, filtered out. Clothing of any kind, windows, houses and smoke shut them out.

Q. "What effects do Ultra Violet Rays have on the body?"

A. "It seems that Ultra Violet Rays are absorbed by the blood stream and their effect is fourfold.

1. It increases the number of red cells and haemoglobin content of the blood stream.
2. It acts upon and activates a substance known as Cholesterol, which is always under the skin, producing Vitamin D. (the sunshine vitamin), which is highly beneficial.
3. It causes more of the Phosphorus, Iron and Calcium to be absorbed from the foods we eat and uses it for bone and body building.
4. It increases *resistance* to invasion of disease.

Q. "What is a Sun Bath? What are its benefits?"

A. "A Sun Bath is exposing the skin to the effects of the free air and at the same time having the rays of the sun strike the body. Exposing the body to the air causes an increase in the burning of the fuel of the body. With the body naked, more heat escapes from it than when the body is covered. In order to keep the body at one level or warmth, its fires have to be stirred up a bit, so as to make up for the heat that has escaped. All this causes deeper breathing as the lungs must have more oxygen. Incident-

ally, it must be remembered that we also breathe with our skins and baring the skin to the air helps us get more oxygen. Deeper breathing means more vigorous circulation of the blood. Slow streams are made to flow more quickly, and waste material is more rapidly thrown off. The skin becomes flushed and rosy and there comes a fine feeling of well being and cheer."

Q. "Where are the effects mentioned described?"

A. "Well, partly in a booklet entitled 'Sunlight, the Health Giver', published by the Metropolitan Life Insurance Company of New York. In fact, they further state—'Following exposure to the sun there is an increase in body energy. Sun Baths make one feel and be stronger. The mind becomes more active and seems able to do more work. There is developed or increased the feeling of well-being, of hopefulness, and of the joy of living'.—Sun Baths also tend to relieve the congestion of all the internal organs and to lower blood pressure. The kidneys are stimulated to fuller and better action. The depth of the breathing increases and the blood become richer in oxygen. All of these effects are most beneficial to the body, in that they help to restore, to maintain and to improve health."

SOURCES OF ULTRA VIOLET RAYS

Q. "What are the sources of Ultra Violet Rays?"

A. "There are three known sources of Ultra Violet Rays. One is natural sunlight, second, Carbon Arc Lamp, and third the Mercury Arc in Quartz Lamp."

Q. "Are both the Carbon Arc Lamps and Mercury Quartz Lamps called Sun Lamps?"

A. "Yes."

Q. "What is the difference between the two lamps?"

A. "The Mercury Quartz Lamps are a more powerful source of Ultra Violet Rays and therefore require shorter exposures to obtain the same results.

Q. "Do you have more than one model carbon arc lamp?"

A. "Yes you will find four different models illustrated in this booklet. They range in price from \$10 to \$49.50."

Q. "Do you have more than one model Quartz Lamp?"

A. "Yes, you will find a number of models illustrated in this booklet ranging in price from \$150 to \$650."

Q. "That seems quite a price range, does it not, \$10 to \$650? Why such a difference in price if they are all Sun Lamps?"

A. "The difference in price is caused by two factors. One is the various intensity of the different lamps and the other is that there are people who are always willing to pay a premium for something better and more efficient."

"You see, it is something like the different price classes in automobiles. In the long run both a Ford and a Rolls Royce will get you to your destination in about the same time and they are both automobiles, but there is a vast difference in power, convenience and appearance as well as in price."

Q. "How do the different lamps compare in intensity?"

A. "Well, taking Midsummer Sunlight as your unit of comparison, I would say that the

Model S Lamp is about 5 times as strong

Model D Lamp is about 10 times as strong

Palm Beach Table Model and Floor Model is about 15 times as strong

U. V. R. Mercury Quartz Lamp Single Burner is at least 50 times as strong

U. V. R. Mercury Quartz Lamp Single Burner is about the entire body at one exposure, is 150 times as strong.

The above approximations are figured at the proper treatment distance for each lamp. This is about 8 inches from the the lamp in models S and D; 18 inches in the Palm Beach Table Model and Floor Model and 20 inches in the Quartz Lamps."

Q. "Are all Sun Lamps good?"

A. "They are good if they are properly designed and honestly manufactured. However, there exists today a tremendous demand for Sun Lamps. Many people who have no previous background or experience have started making lamps. While there are a number of good lamps on the market, there are very many poorly designed and badly constructed lamps that will cause people who buy them lots of annoyance and will be in need of constant repair."



Q. "What about therapeutic lamps having a bulb?"

A. "These usually are just baking lamps that give you Infra Red Rays (heat) and visible light but no Ultra Violet Rays."

Q. "How shall I take Sun Baths and how long at one time?"

A. "The length of time depends upon a person's coloring and the type lamp you use. Blondes are more susceptible than brunettes and should take shorter exposures. For the person of average coloring using a carbon arc lamp, five minutes at the proper treatment distance (see page 12) is sufficient to start with.

First Day—Irradiate the chest.

Second Day—Irradiate the back.

Alternate each day for ten days. Then you can increase the treatment and irradiate the back and chest the same day. Thus taking a double exposure. After 30 days you can take a double exposure both on the chest and back if you desire. You can vary this by exposing your face instead of the chest.

Q. "Can I get a tan with the carbon arc lamp?"

A. "Yes, as a matter of fact while we recommend the sunshine carbons for use where a general tonic effect is desired, we can supply also the Supertan Carbons, which will give you a tan more quickly. That is provided, of course, that you usually tan in summer sunlight. Some people you know, never tan—they just burn and then peel immediately. Sunshine Carbons are furnished with the lamp as standard equipment."

Q. "Do children respond to Sun Baths?"

A. "Yes indeed, even much better than adults. Systematic irradiation with Ultra Violet Rays, helps their bone structure, gives them the needed supply of Vitamin D., helps them to retain more of the Phosphorus, Iron and Calcium from the food they eat which is needed for body building. Sun Baths will help them grow straight and healthy and normal. We know of a number of children who, due to the fact that they were suffering from some minor ailment, were constantly peevish, irritable and moody. Systematic Sun Baths by clearing up the cause, made them happy, carefree and normal again."

Q. "Are these lamps used in the treatment of disease?"

A. "Sun Lamps have been used for a great many years by the Medical Profession for treatment and cure of a great many ailments. Do not make the mistake however, of diagnosing your own illness. If you are sick consult a physician. If you are well or suffer only from a minor ailment, you may use the lamp with perfect ease of mind and will be greatly benefitted by its use.

What Physicians Say

of

SUN LAMPS

(These extracts are taken from world famed authorities)

3

DR. W. A. EVANS (Health Editor of *Chicago Tribune*) :

"Bathing in the rays from Carbon Arc or Mercury Quartz Lamps is the only sure way of rearing healthy children in Northern climates."

DR. THOMAS WOODBURY, New York, says:

"All pregnant women should be treated systematically with ultra-violet rays either from the sun or an arc, to prevent nausea and exlampsia, as well as to increase lime in their milk, and babies should be so treated to prevent rickets and tuberculosis and the treatment should continue during youth, since growth is stimulated by it. Where winter climates are cloudy, the city schools and dispensaries should have strong arc lamps for regular daily irradiation of the children, especially the weakly ones."

DR. FRANCIS HOWARD HUMPHRIES, F.R.C.P. (Edin) M.R.C.S. (End.) L.R.C. (London) L.M. (ot. Dublin) D.M.R. & E. (Cantab.) says:

"For general body treatment in this country, the carbon arc is more generally preferred, even to sunlight itself, since the risk of over radiation is less. Containing as it does a high proportion of infra-red rays, it prevents the patient approaching or at any rate remaining too near the lamp."

A Palm Beach Sun Lamp in your Home means Better Health for the Entire Family.

The following is reprinted from the "Chicago Health" weekly bulletin edited by Arnold H. Kegel, M.D., Commissioner of Health of Chicago.

"Sunlight is a necessity of life. In fact, in Nature's scheme of things, it appears to be a principal source of vital energy for both plants and animals. Everyone has noticed that green plants removed from sunlight soon fade and lose their vitality.

"And so also, people who are confined in dark places or who constantly work away from daylight, become pale and tend to lose their normal healthy vigor. Such persons have a pasty skin, are apt to be tired and listless and are an easy prey to germ infection, especially those of the lungs, nose and throat. The Health value of sunshine has long been known. Its beneficial effect was recognized by the Ancients long before the science of physics had disclosed the nature of sunlight and analyzed it into its component parts.

"The special beneficial effects of sunshine or ultra-violet light, which have the support of laboratory experimental evidence, may be summarized as follows:

1. Increasing the germicidal power of the blood and thus promoting resistance to infection.
 2. Aiding in the absorption of certain minerals (lime and phosphorous) from the food and increasing their concentration in the blood. These minerals are concerned in building teeth and bones and also in the vital chemical processes of the body (Basal metabolism). They aid in keeping up the 'alkaline reaction' of the blood, which enables it to carry away waste products and germ poisons, to be thrown out by the kidneys, skin and bowels. The prevention and cure of rickets or softening of the bones in infants are important effects of ultra-violet light exerted through its action on these mineral elements of food.
 3. Stimulation of growth of the young, exerted indirectly through green plants used for food, and probably also by direct absorption of the light rays of the skin."
- 

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

Washington

From Letter Circular LC-225

March 5, 1927

PARAGRAPH 16.

Carbon arc found to be closest approach to sunlight

At the present time great efforts are being made by the medical profession to utilize sunshine to the best advantage for healing purposes. Proof of this is found in the thorough search now being made for a window material that will transmit the shortest ultra-violet solar rays to which ordinary window glass is opaque. However, sunshine is not available at all times and in every desirable place. Hence the Bureau has been investigating the special energy distribution of various artificial illuminants to find the one which most closely approaches the ultra violet spectral energy distribution of the sun.

Such a source has been found to exist in the carbon arc. *Of all the artificial illuminants tests it is the nearest approach to sunlight.* The observations, as a whole, showed that the ultra-violet radiation emitted is a complex function of the electrical current through, and the chemical composition of, the electrodes.