

TO THE COMMISSIONER OF PATENTS;

Your petitioners, ROYAL R. RIFE and YERNE W. THOMPSON, citizens of the United States, and residents of San Diego, State of California, whose post office addresses are 3676 Zola St, and 3786 Albatross respectively, pray that letters Patent may be granted to them for an improvement in

MEANS AND PROCESS FOR SEPARATION, TRANSPORTATION, CONTROL, AND EXTRACTION OF MINERALS AND CHEMICALS FROM LIQUIDS, SOLIDS, AND GASES, AND THE DEVITALIZATION AND /OR CONTROL OF BACTERIA, VIRUS AND FUNGI

set forth in the annexed specifications; and they hereby appoint

CONRAD C CALDWELL
registration No. 16009

whose address is 4094 30th Street, San Diego 4, California, their attorney with full power of substituting and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent office connected thereto.

Signed at San Diego, in the County of San Diego, State of California, this 28th day of August, 1956.

R.R.Rife

Yerne W. Thompson

Reel 054 FRAME 074 and 075
MAY 31, 1955

Application # 512,326 MAY 31, 1955

Our invention relates to the art of treating
chemical substances, bacteria, virus, and fungi with
electro-magnetic radiations and has particular reference
to the means and process for separation, transformation,
5 control, and extraction of minerals and chemicals from
liquids, solids, and gases, and the devitalization
and/or control of bacteria, virus, and fungi by exposing
such substances to the concentrated radiation of electro-
magnetic energy having specific and determinable
10 frequencies.

This application constitutes a continuation in
part of our copending application Serial # 512,326 filed
May 31, 1955 for a PROCESS FOR THE SEPARATION OF CHEMICALS
15 FROM LIQUIDS, SOLIDS, AND GASES AND DESTRUCTION AND CONTROL
OF BACTERIA, VIRUS, AND FUNGI.

It is well known that all chemical compounds
have an inherent natural resonant frequency, and that if
20 such chemical compound is subjected to such resonant
frequency of sufficient intensity its chemical composition
or characteristics have been changed.

• It is also well known that bacteria, virus,
and fungi are, in essence, a chemical conversion plant
and will survive only in given environment which
supplies the proper and necessary food and that upon
5 consumption of this food the virus, or bacteria produces
deleterious chemicals which adversely affect the body.
If sufficient of the virus are present to produce
~~the~~ sufficient of such deleterious chemicals, serious
illness results. If the chemical composition or
10 characteristic of the environment is changed suffi-
ciently, or if the chemical by-product from the bacteria
or virus is changed, the virus and bacteria become
devitalized or destroyed and the harmful effect upon
the body is removed.

15

It is therefore among the objects of our
invention to provide a means for producing electro-
magnetic energy and of directing that electro-magnetic
energy in a concentrated and directed beam to the
20 locality of such virus, bacteria, or fungi being treated
in order to destroy or change the chemical characteristics
or composition thereof.

Also one of the objects of our invention is to
25 provide a means for the generation of a directed, con-
centrated beam of electro-magnetic energy and including
means for varying or pre-selecting the frequency range
for such electro-magnetic energy.

30

Students of bacteria and virus have long known

o that each different bacteria, virus or fungi has its own
or individual and distinctive color range. The color
range corresponds to, or is controlled by the chemical compos-
ition of the environment in which bacteria, virus or
5 fungi resides.

We have found by experimentation that the
resonant frequency required to devitalize or destroy
10 such bacteria, virus, or fungi or to affect the
characteristics of the various chemical compounds being
treated corresponds to the frequency range of the color
of each bacteria, virus, or other chemical composition
and that if such bacteria, virus, or fungi or chemical
composition is subjected to electro-magnetic radiation
15 having a frequency resonant with such color range and in
sufficient intensity that the bacteria, virus, fungi or
other chemical composition will be changed, devitalized,
or destroyed.

20 Also among the objects of our invention is to
provide a process or method for treating bacteria, virus
and fungi by first determining the color range thereof
and subjecting such bacteria, virus and fungi to a
relatively high intensity radiation of electro-magnetic
25 energy having a frequency which is resonant with such
color frequency or harmonic thereof.

A great deal of research and effort has been spent in recent years attempting to convert ocean or sea water into usable domestic water to increase the source thereof for our expanding population. Most of such efforts have taken the direction of mechanical separation of sodium chloride and other chemicals dissolved in the ocean water by means of evaporation and condensation. Large amounts of energy are required for this type of separation, which of a necessity, establishes a high cost for the usable water produced.

We have found by experimental usage that the sodium chloride and other chemicals can be removed from sea water by subjecting such sea water to radiations of electro-magnetic energy having a frequency resonant with the natural frequency of such chemical, or by a chord of frequencies having such resonant frequency and harmonics thereof.

We have established on numerous occasions that by subjecting such chemical radiations that the solution being treated will become stratified in that the various chemicals will settle to the bottom leaving substantially pure water to be removed from the top. It is therefore also among the objects of our invention to provide an apparatus for the continuous treatment of sea water in order to separate the dissolved solids therefrom in order to obtain relatively pure and usable water.

The processes above described cover a much

broader range of application to chemical transformation
than the examples illustrated. The process herein
specified of separation transformation, control and
extraction of minerals and chemicals from liquids,
5 solids and gases and the devitalization and/or control
of bacteria, virus and fungi by subjecting, exposing,
treating or processing such liquids, solids and gases
to a specific and determinable electro-magnetic fre-
quency source which releases a vibrational energy
10 coordinating with the critical energy level of the
liquid, solid, or gaseous substance involved causes a
transformation of such chemical constituents in such
substance into an ionized or separable state. Such
transformation produces a separable or soluble or
15 partially soluble compound or ionized molecule which is
capable of seeking its own level by settling or separ-
ation from the other liquids, solids or gases by seeking
its own level in solution depending upon the specific
gravity of the separable constituent or constituents
20 involved. Thus, the separation, transformation and/or
extraction of the various chemicals, minerals, and/or
molecules thus stratified by a process of sedimentation
and/or filtration.

25 Other further objects and advantages of our
invention will become apparent from the following
specifications and the drawing illustrated thereof.

IN THE DRAWING:

Fig.1 is schematic representation of one of the preferred forms of our invention for treating bacteria, virus and fungi.

5

Fig.2, is a schematic representation of a form of our invention for treating chemical compounds in solution.

10

The device illustrated and used in the practice of our invention for the treatment of bacteria, virus and fungi comprises essentially a frequency generator designated generally by the numeral 10 of any well-known type. Such frequency generators are well-known in the art. We prefer a type having a broad range of generation and sufficient output capacity to produce radiation of sufficient intensity to render our processes practical.

15

20

The frequency generator 10 may be provided with some means such as control knob 11 for changing or varying the frequency output. Although it is not necessary it is sometimes preferred that the frequency range cut-off should not be too sharp so that a relatively wide band of the frequency spectrum can be radiated as desired.

25

30

Whereas any satisfactory means for controlling and directing the broadcasting of such electro-magnetic energy can be employed, we have found the most satisfactory

to be a vacuum tube type such as illustrated herein and which includes a glass envelope 12, an electronic gun 13, and a reflector or concentrator 14. The tube is also provided with external terminals 15 and 16 which are conductively coupled ^{to} terminals 17 and 18 of the frequency generator 10 by means of conductors 19 and 20.

The envelope 12 should be evacuated of all air and refilled with one of the inert gasses found in class "0" of the periodic tables to a pressure of approximately 14 millimeters of mercury. Whereas all the gasses found in class "0" will work, we prefer the use of helium as a filler for the evacuated tube because it results in better definition of focusing of the beam and will stand up better under continuous use and bombardment.

In order to treat certain bacteria, virus or fungi so that they will be devitalized or destroyed it is first necessary to determine the color range of such bacteria, virus or fungi under a polarized microscope and then to set the control knob 11 of the frequency generator 10 to a segment of the frequency spectrum as published by Bureau of Standards which includes the known frequencies for the colors found for such bacteria, virus or fungi.

It has long been well-known that such maladies as cancer have been considered insurable and may prove fatal unless physically removed by surgery. It has also

• been well known by us that a specific virus causes the cancer growth.

We have observed by experimentation on cancer tissues removed from cancerous mice that the cancer virus can be destroyed by ^{subjecting} ~~submitting~~ them to an intense radiation of electro-magnetic energy of a frequency range from 2000 to 2150 on a carrier wave of 4150 K.C. We not only have proved this by clinically growing cancer in mice and then subjecting them to such radiations which resulted in the curing of such cancer, but we have also observed the complete devitalization and destruction of cancer virus by subjecting such isolated virus to such radiation while observing their actual physical behavior under a light passing microscope of the type developed by Royal R. Rife and described in "The New Microscopes" by R. E. Seidel and M. Elizabeth Winter, Volume 237 No. 2, February, 1944, Journal of Franklin Institute.

A great many other virus have been destroyed in the laboratory by subjecting them to radiations of electro-magnetic energy of a frequency which is resonant with the lower harmonic equivalent frequency of such virus. A few virus, fungi and bacteria which have been treated and devitalized or destroyed and the frequency on a carrier wave of 4150 K.C. required for their destruction is set forth in the following table;

	Tetanus	120
30	Treponema	600

	Conorrhoea	712
	Typhoid	712
	Staphylococci	728
	Pneumonia	776
5	Streptothrix	784
	Bacillus Coli Rod	800
	Tuberculosis Rod	808
	Streptococci	830
	Tuberculosis Virus	1552
10	Bacillus Coli Virus	1552
	Thyphoid Virus	1862
	Sarcoma	2008
	Cancer Virus	2128

15

Referring now to Fig. 2 we have

illustrated schematically one example of a device for treating chemicals in solutions such as the removal of sodium chloride and other chemicals from sea water.

The illustration herein shown includes a container

20

designed generally by the numeral 20 containing the chemical solution 21. A plurality of frequency generators such as 22, 23 and 24 are provided for

reasons which will be explained later. Each of the frequency generators are conductibly connected to

25

terminal plates 25 and 26 by conductors 27 and 28 respectively.

Also a source of direct current such as the

D.C. power supply 29 is connected to the terminal

30

plates 25 and 26.

Whereas we have found that impressing a resonant frequency on the terminal plates 25 and 26 from a single frequency generator such as 22 is effective in changing the characteristics of the chemicals in solution, we have also found that the use of the multiple frequency generators for the purpose of impressing several different frequencies forming harmonic chords is more effective to transform or change the characteristics of the chemicals in solution.

We have also found that polarizing or biasing the plates 25 and 26 by attaching a source of direct current to the plates also assists in the chemical processes.

We have observed that the solubility characteristics and chemical characteristics of certain chemicals can be changed by subjecting a solution thereof to the action of electromagnetic energy corresponding to the resonant frequency of such chemical compounds. For example, ordinary sea water was subjected to radiations having a frequency range from 120 C.P.S. to 30,000 C.P.S. and it was observed that the various chemical compounds dissolved in water settled to the bottom in a stratified form corresponding to the specific gravity of the various chemicals and that the top portion of the water became sufficiently pure for domestic use. Filtration of the decanted top portion may become necessary.

The above examples and descriptions are intended
as illustrations only, are not to be considered limita-
tions upon our invention; also, the specific device
illustrated schematically in the drawing is by way of
5 illustration and constitutes what we consider to be
the preferred and most efficient means for producing
and directing a concentrated beam of electro-magnetic
energy. The only limitations to be imposed upon the
apparatus or the method are found in the following
10 claims.

WE CLAIM:

1. An apparatus for treating chemical compounds, bacteria, virus or fungi to change the chemical characteristics thereof including; means for generating electrical current having a frequency tunable to the resonant frequencies of said chemical substances, bacteria, virus or fungi, said resonant current being superimposed on a high frequency carrier wave and broadcastable in the form of electro-magnetic energy; and means conductively coupled to said generator for concentrating and directing said electro-magnetic energy at the chemical substance, bacteria, virus or fungi to be treated.

2. An apparatus for devitalizing or destroying bacteria, virus or fungi including; a frequency generator capable of producing a high frequency carrier electrical current having an amplitude modulation of variable frequency and tunable to one of the harmonic resonant frequencies of said bacteria, virus or fungi; and means conductively coupled to said generator for broadcasting said current in the form of electro-magnetic waves and in concentrated, directed beams.

3. An apparatus for devitalizing or destroying
2. bacteria, virus and fungi including; a frequency
3. generator capable of producing a high frequency carrier
4. electrical current having an amplitude modulation of
5. variable frequency and tunable to one of the harmonic
6. resonant frequencies of said bacteria, virus or fungi;
7. and means conductively coupled to said generator for
8. broadcasting said current in the form of electro-
9. magnetic waves and in a concentrated, directed beam,
10. said last named means including partially evacuated
11. envelope containing one of the inert gasses from
12. class "0" of the periodic table, an electronic gun and a
13. reflector target.

4. An apparatus for devitalizing or destroying
2. bacteria, virus or fungi including; a frequency
3. generator capable of producing a high frequency carrier
4. electrical current having an amplitude modulation of
5. variable frequency and tunable to one of the harmonic
6. resonant frequencies of said bacteria, virus or fungi;
7. and means conductively coupled to said generator for
8. broadcasting said current in the form of electro-
9. magnetic waves and in a concentrated, directed beam,
10. said last named means including a partially evacuated
11. envelope containing helium at approximately 14 mm Hg.
12. pressure, an electronic gun and a refractor target.

1. 5. An apparatus for treating chemical
2. compounds to change the characteristics thereof com-
3. prising; means for generating a high frequency current
4. having an amplitude modulation of a frequency resonant
5. with one of the harmonics of the natural frequency of
6. said compound; terminal plates conductively coupled to
7. said generator adapted to cause said modulated high
8. frequency current to pass through said compound; and
9. means for impressing a direct current bias on said
10. terminal plates.

1. 6. An apparatus for treating chemical
2. compounds to change the characteristics thereof com-
3. prising; a plurality of means for generating a high
4. frequency current, each high frequency current having
5. an amplitude modulation of a frequency resonant with
6. one of the harmonics of the natural frequency of said
7. compound, the frequencies of said several amplitude
8. modulations forming harmonic chords; terminal plates
9. conductively coupled to said generators adapted to cause
10. said modulated high frequency current to pass through
11. said compound; and means for impressing a direct current
12. bias on said terminal plates.

1. 7. The method of devitalizing, destroying
2. or changing the chemical characteristics of bacteria
3. virus, fungi or chemical substance, comprising the
4. steps; examining the bacteria, virus, fungi or chemical
5. substance under a polarized microscope to determine
6. natural color thereof; determining the frequency
7. corresponding to said color and subjecting said
8. bacteria, virus, fungi or chemical substance to electro-
9. magnetic energy having a frequency resonant with one of
10. the harmonics said frequency corresponding to said color.

R. R. RIFE

Vern W. Thompson