DRAFT DRAFT DRAFT DRAFT DRAFT – DO NOT USE – MANY LINES ARE MISSING

**(1)**

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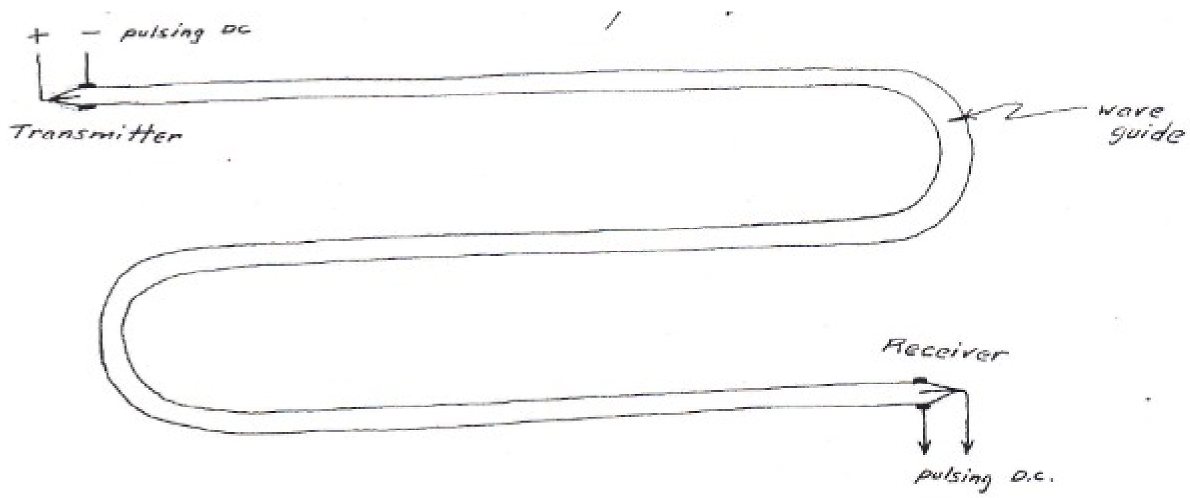
NOTES

[Transcriber's notes, 2024-04-21: This is retyped from a scanned file "TT Brown - Vega Aircraft Corp Burbank CA – Notes.pdf", SHA256 hash 38A8 51D0 3423 BA8C 881D 488A 9709 0C7B CF64 7157 9403 0ED2 E12E BBAF C1B4 A8D8, which is a low-quality scan of Townsend's handwritten notes, and the pages are in random order. An attempt has been made in this file to transcribe the sentences correctly and to arrange the pages in the correct order. The numbers in parentheses are the page numbers in the PDF, the numbers in square brackets are the internal document page number at the top right of the page. Some diagrams remain illegible. The pages of "Structure of Space", which have previously been transcribed, are not included in this file.]

**(2) Dec 29, 1942 [70]**

Wave-guide transmission of "splash" radiation.




1.

Radiant dielectrics are installed at the ends of a wave-guide (tubing).

2. If the dielectrics are of the proper type for low-loss transmission, the internal radiation may be transmitted and received, using a <u>solid dielectric wave-guide</u> instead of metallic tubing. The system bears a striking resemblance to an elementary nerve structure, where the nerve fibre is a dielectric wave-guide.

If such a relation does actually exist, it is possible that radiations of from 10 mm to .1 mm wavelength may have interesting effects on the nervous system, and that certain mutagenetic radiations may be identified as lying in this frequency region.

Pulsing discharges are possibly transmitted along the nerve fibre to create equivalent electrical pulses at the receiving end. Thus a nerve fibre is visualized as a wave-guide (dielectric fibre), capable of transmitting UHF “splash” radiations, and not a kind of organic electrical conductor for the low frequency nerve or muscle-activating pulses. Reference: “Researches of the Johnson Foundation”.

**(3) Dec 28, 1942 [68]**

Quoting from P. 391 - Lindenblad: Transmitters for Frequencies Above 300 MC – Radio at Ultra High Frequencies, RCA Institute Technical Press

*“The electric field from the electron, which at a distance covers the electrode fairly uniformly and causes a current of no definite origin to flow through the electrode, as the electron moves, becomes more concentrated as the electron nears the electrode. The current origin in the electrode becomes more and more defined into a spot under the electron where it becomes very concentrated. The direction of this current is towards the spot if the electron is in an approaching state and away from the spot if the electron is in a receding state. - - - -*

*This phenomenon is naturally extremely rapid in that such concentrations do not become noteworthy until the electron is fairly near the electrode. It takes place during a very small fraction of the total transit time of the electron. Its period is therefore greatly in excess of that represented by the transit time and represents real ultra high frequencies. These “surface oscillations” are independent of the frequency at which the device generates and depend only upon the number and velocity of the electrons.*

*Carrying the discussion a little further it becomes increasingly difficult to see where to draw the line between these “spot impulses” and heat generated. It depends largely upon the size of the area under consideration if the period belongs to the radio frequency region or the heat region. If the electron is headed for a landing on the electrode the spot becomes smaller and smaller until we reach the molecular and atomic structure of the electrode where the remaining kinetic energy is interchanged.*

*If the electron does not approach the electrode quite so close, like for instance when an electron passes through a grid structure the frequency produced, while high, is definitely one far below that of heat.”*

**(4) Dec 28, 1942 [67]**

current triggered by the field on the grid.

<u>Radar Receiver</u>

This radiating system may be used as a receiver as well. Radiant energy will cause the extremities of the dielectric to become differently charged. Audio amplifiers must then be used to bring the signal up to the desired level to operate the “scopes”. No radio frequency current is employed, except that in the antenna-rectifier system.

Another receiving system might utilize the variations in the cathode to plate current. Fig. 2.

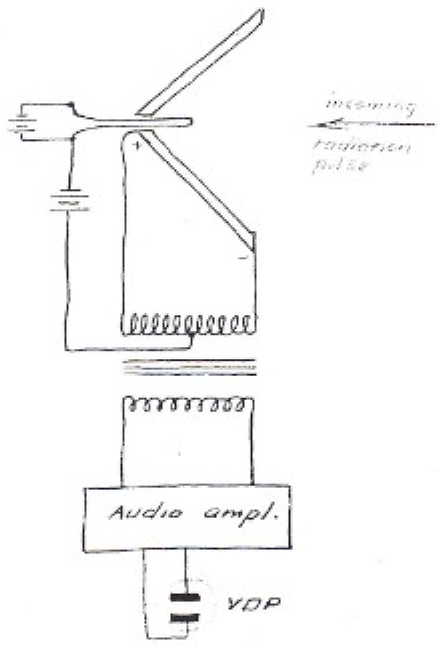



Fig. 1

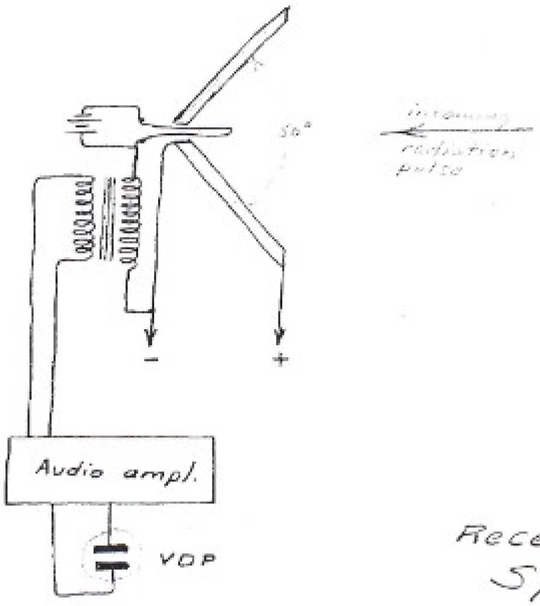
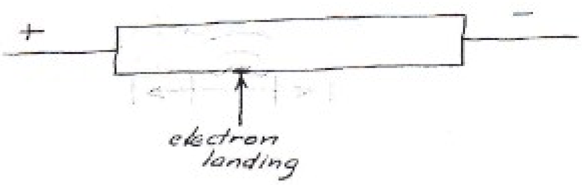



Fig. 2.

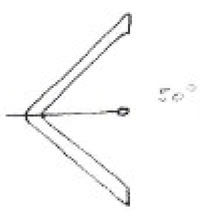
Receiving Systems

**(5) Dec 29, 1942 [69]**

The arrangement of dielectric shown in Fig 1 of P. 62 differs radically from that described earlier in these notes. It is the thought that the transients caused by the landing of electrons on the dielectric are transmitted principally along the surface where the electrons land. Internal waves induced in the dielectric are perfectly reflected by the opposite surface. These internal waves do not reach the outside, because of the great difference in impedance.




Therefore, radiation is present in the space between the walls of the dielectric cone occupied by the ionizing wire or cathode. These radiations leave the cone at the “open” end and are beamed by the 50 degree optimum angle.




No radiation is present on or from the back of the cone. This applies only to “splash” radiation. Relaxation frequencies are undoubtedly present on the back side, but of less magnitude than in front.

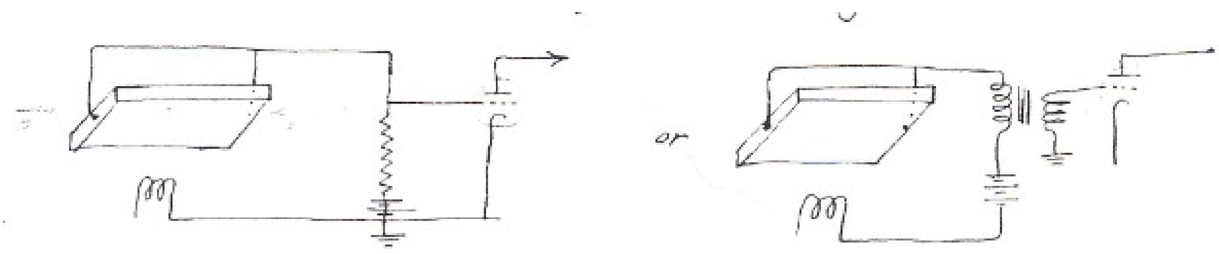
**(6) Dec 11, 1942 [?]**

Type A is reversible. For this purpose it is made symmetrical. When the slider on the high voltage potentiometer is moved toward the negative end, the force (or radiation) is increased regardless of the position of direction-reversing switch S. The direction of radiation is always toward the positive electrode, the direction of reactive forces always toward the negative.

Type B is not reversible. The slider controls the force, as in Type A.

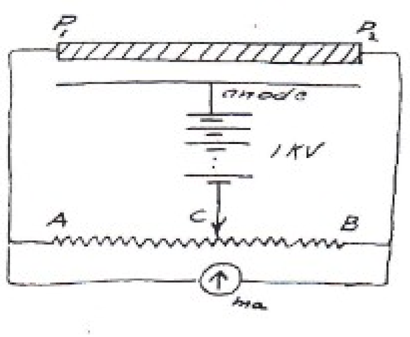
Type A may also be used as a bi-lateral transmitter. See P. 28-29. For this application, both ends of the semi-conducting dialectric are made positive with respect to the cathode.


As a bilateral receiver, the following circuit is indicated. Pulsating radiation only.

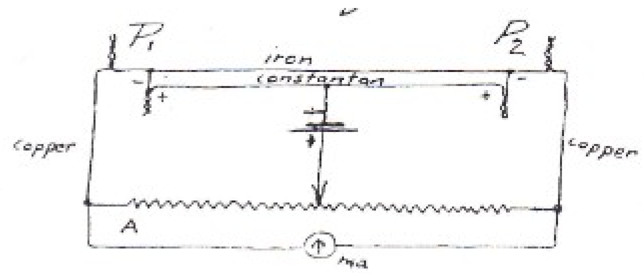



**(7) Dec 15, 1942 [?]**

substantially what happens in the case of dissimilar metal junctions of a thermocouple.

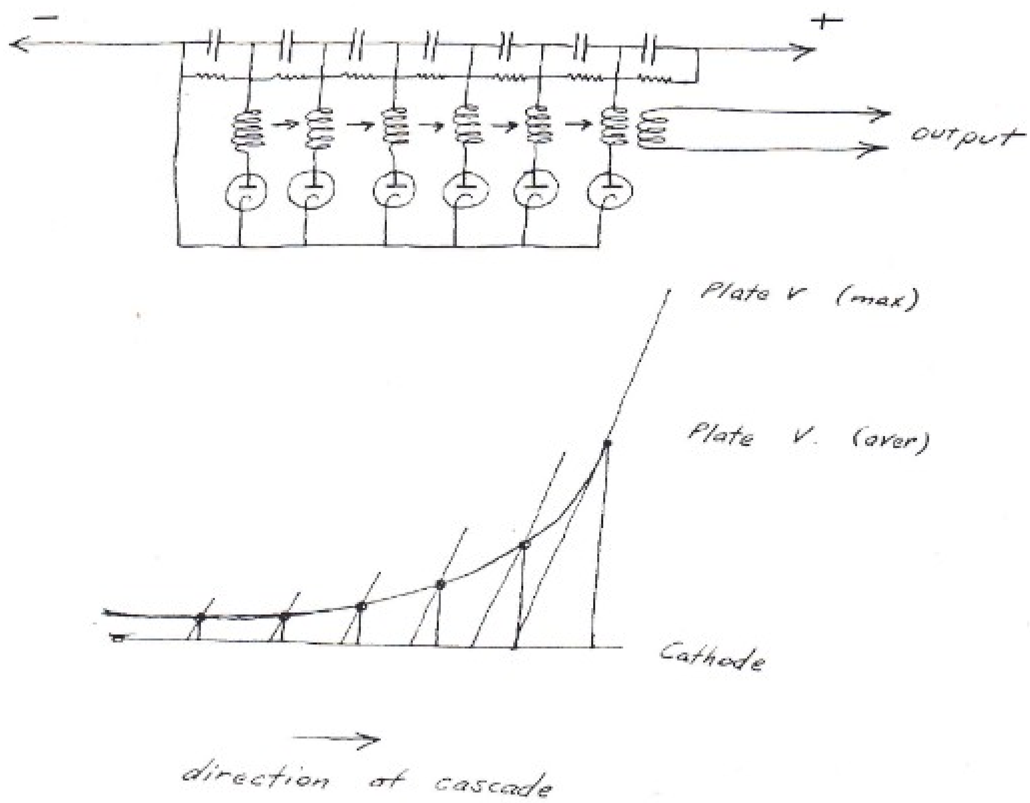



Dielectric and P1P2 is arranged in close proximity to an anode plate as indicated. So long as the dipole oscillation (temperature) of region P1 equals that of P2 the nul position of the potentiometer slider is centered between A and B, at C. If, however, the dipole oscillation, either through direct radiation or by actual temperature, of P1 exceeds that of P2, the nul will move toward A. If the oscillation of region P2 exceeds that of P1, the nul will move toward B. When the potentiometer is centered, the potential difference between A and B is a function of the heat (temperature) or radiation differential. The thermocouple equivalent circuit is:




**(8) Dec 15, 1942 [38]**

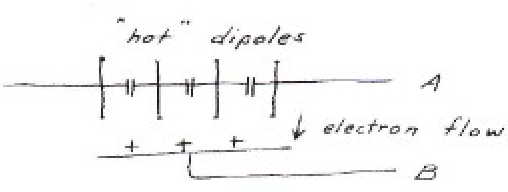
It would seem that the principles herein set forth may be applicable also to a multi-stage low frequency oscillator, where the wave is developed in amplitude by “cascading”. At each stage, additional energy is applied:




**(9) Dec 15, 1942 [39]**

Thermoelectric equilibrium.

Certain thermoelectric effects are predicted which appear to parallel well-known photo-electric effects. As described in P. 23-25, incoming radiation causes dipole nullation. If the dielectric containing the nullating dipoles is placed in a transverse electric field, electrons are pulled out, current flows, and dipole radiation is “resisted”. The nullation is damped and heat is absorbed. If the heat "supply" radiation is discontinued, the dielectric "cools" until nullation ceases. In this way, the action might be considered "endothermic". Heat energy is converted into electric current.




"Hot" dipoles evolve electrons until A becomes sufficiently positive with respect to B, to prevent evolution. The positive charge on A, then, is a function of its temperature. If a conductor of low resistivity connects A with B, a current flows. If losses are present, the dipole oscillation is "removed". This is

**(10) Dec 10 [?]**

It is noticed that, in the apparatus described on P. 33, heating of the anode results from continuous operation. After the unit has become "warmed up", it will therefore operate on AC, since the direction of the applied potential makes very little, if any difference in the resultant forces. In this case, the filament heating may be discontinued without loss of efficiency.

...

Table of wavelengths.

1 micron = $10^{-6}$ meters

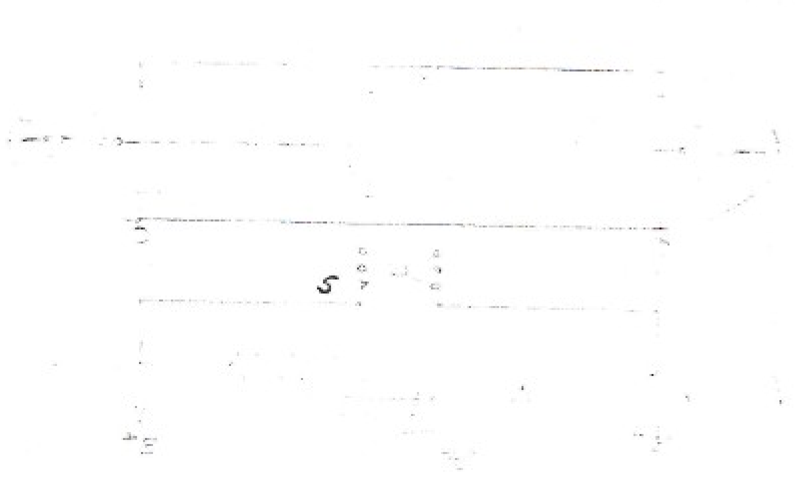
| | | | | |
|---|---|---|---|---|
| | 100,000 | microns | = 10 cm | (radar) |
| "sub" heat radiation | 10,000 | " | = 1 cm | (sidereal) |
| "sub" heat radiation | 1,000 | " | = 1 mm | (radio-heat border) |
| "sub" heat radiation | 100 | " | = .1 mm | (heat) |
| | 10 | " | = .01 mm | (heat) |
| | 1 | " | = .001 mm | (heat-light border) |
| | .8 | " | = .0008 mm | (red) |
| | .4 | " | = .0004 mm | (violet) |

1 angström = $10^{-10}$ meters

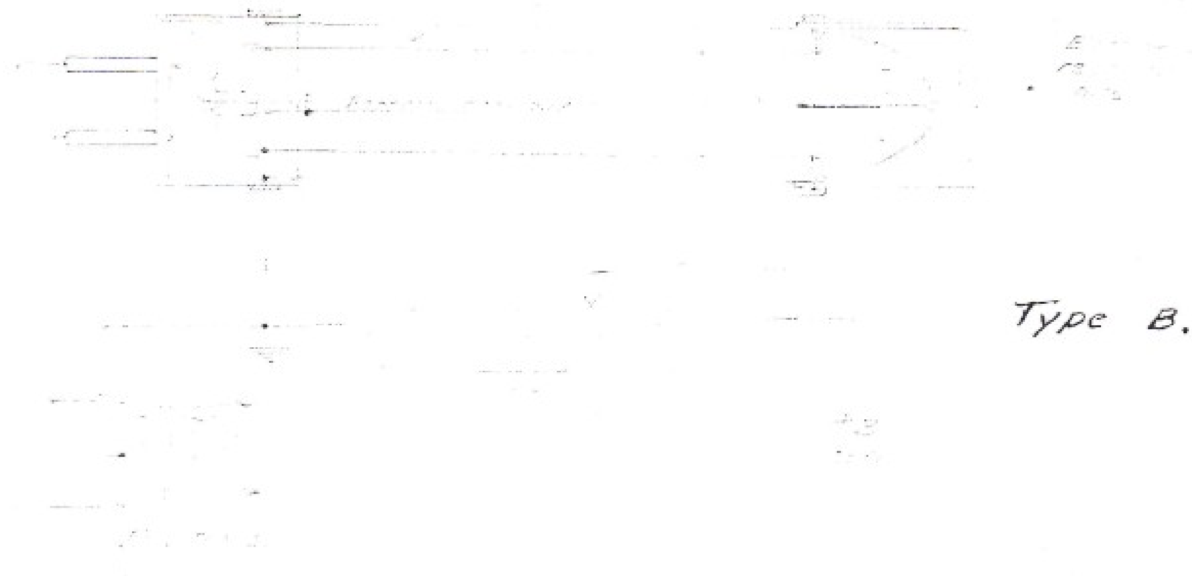
| | | | |
|---|---|---|---|
| 8000. | angströms | — | red |
| 4000. | " | — | violet |
| 1. | " | — | medium X rays. |

**(11) Dec 10, 1942 [36]**

Several types of small experimental tubes are suggested – as follows:




Type A.



Type B.

**(12) Dec 10, 1942 [3?]**

Suggestions as to suitable “semi-dielectric” materials are those which offer:

1. Heat resisting qualities. Capable of operating at temperatures from 600 to 1200 degrees F (dark red heat).

2. Dielectric strength, averaging 25 KV / inch.

3. Proper conductivity to achieve results indicated in P. 33. Conductivity to increase rapidly as temperature rises above 1200 degrees F.

4. Mechanical strength at high temperatures.

5. Capable of maintaining high vacuum within cylinders at high temperatures. (Low permeability)

6. Minimum coefficient of expansion.

Materials to be considered are:

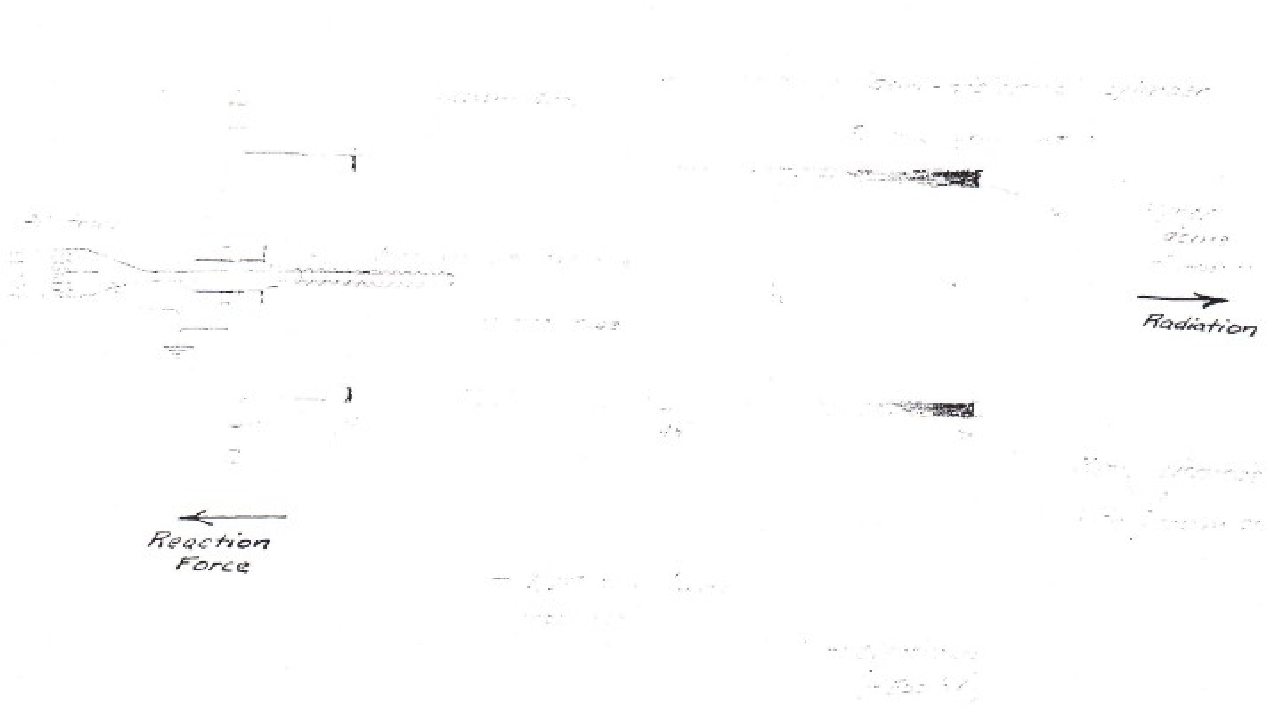
1. High grade refractory porcelains. With various conducting agents, thorium oxide, graphite, etc

2. Boro-silicate quartz glass with metallic ions, carbon or oxides.

**(13) Dec 10, 1942 [33]**

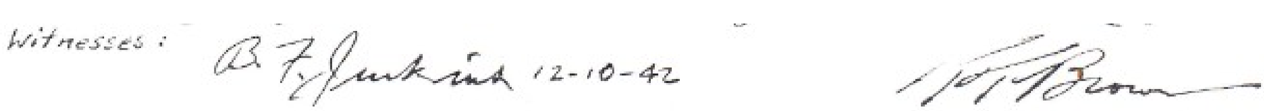
High-Powered Radiator

Progressing, for a moment, to a theoretical radiator of the future, certain special features of design are indicated:



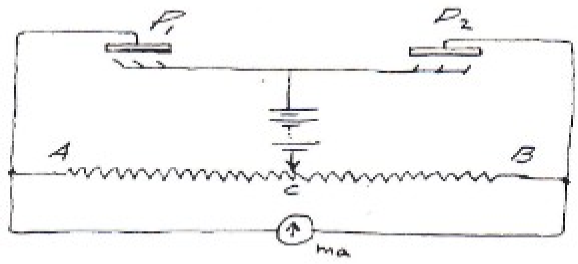

The heat resisting “semi-dielectric” cylinder will run “hot”. Its conductivity under such conditions should be capable of being “doubled” by the cathode-to-plate current. Total current at 500 KV should be approx. 100 m.a., with full power maximum at about 1000 m.a.  Dielectric must withstand exceedingly high voltage gradient near the positive electrode.

Witnesses: [B F Jenkins] 12-10-42 [T T Brown]




**(14) Dec 15, 1942 [41]**

The photo-electric equivalent circuit is:




If radiation (light) in photocell P1 exceeds that on P2, the nul moves toward A, and visa versa.

Returning to “sub” heat radiations discussed throughout this theory, the wavelength of the order of 1000 microns appears reasonable. The band may spread from 10,000 microns to 100 microns conceivably. The “radiation to electricity” effects must be substantially the same as with infra-red and light. These effects are observable in the behaviours of certain dielectrics in electric fields.

The type of dielectric selected seems to depend on the wavelength utilized. Longer waves require larger inductance and capacitance per unit volume of dielectric. Furthermore, the more dense dielectrics offer greater natural absorption. Electrical resistance likewise causes absorption.

(15) Dec 17, 1942 [42]

The choice of dielectric depends on several
...
as a result. This is reflected again at P3, but

(16) Dec 17, 1942 [43]

due to the exceedingly high frequency, P3
...
procession of damped waves.

[diagram]

(17) Dec 18, 1942 [?]

All tubes will oscillate if the potential of the
...
5. Dielectric absorption.

(18) Dec 18, 1942 [45]

Factors affecting frequency of natural dipoles
...
6. Highest dielectric absorption.

(19) Dec 19, 1942 [46]

It may be seen, therefore, that pulses
...

In effect, the following is a summary of the action which takes place:

(20) Dec 19, 1942 [47]

[diagram]

A glow discharge takes place at some point A
...
Following behind the glow discharge area is a

(21) Dec 19, 1942 [48]

dark area where ultra-high frequency waves
...
specific inductive capacity is employed.

(22) Dec 19, 1942 [49]

The dimensions of the dielectric are important.
...
circularly polarized waves. See P. 14.

(23) Dec 19, 1942 [50]

Another form of dipole is the ring, where
...
3-pole spark gap may be employed.

(24) Dec 21, 1942 [51]

A heavy current flows momentarily upward
...
have high absorption and high resistance.

(25) Dec 21, 1942 [52]

Perhaps a better arrangement would be to
...
than that of dielectric loops – due to greater electrical [inductance]. See P. 49.

(26) Dec 21, 1942 [53]

The 3-pole spark gaps shown in the diagram
...
To obviate this, “controlled” pulsing is indicated.

(27) Dec 21, 1942 [54]

Controlled Pulsing
...
when pulsing at high frequency.

(28) Dec 22, 1942 [55]

To limit the firing time in such a way
...
Gas discharge tubes may be employed in place of spark gaps, with resulting gain in efficiency.

[diagram]

(29) Dec 22, 1942 [56]

It will be observed that the discharge-time
...
For this purpose, the dipole system and its associated “reactor” plate or field is thought of as a parallel transmission line.

(30) Dec 23, 1942 [57]

[diagram]

Any disturbance in the electric field along
...
a lesser extent because of internal resistance.

(31) Dec 23, 1942 [58]

If the foregoing “impedance hypothesis” is correct,
...
Since heavy and large ions (+) are desired, some special ionizing means should be provided.

(32) Dec 23, 1942 [?]

[diagram]

Ions escaping from or impinging on the dielectric
...
to thermal noise in common radar circuits.

(33) Dec 23, 1942 [60]

Relaxation Surges
...
Surges of this nature may, conceivable, produce an additional radiation from the unclosed end of the transmission line. P. 58.

(34) Dec 23, 1942 [61]

Such a relaxation oscillation causes the field
...
Carbon resistor – low res at high freq, high res at low freq.

(35) Dec 24, 1942 [62]

It is understandable, therefore, that the
...
2. Desirable (linear) direct current gradient.

(36) Dec 24, 1942 [63]

3. Centralized positively charged ionizer. Highest
...
Witnesses as to date.
[F. ?] 12/24/42
[Lister Rocsin?] 12/24/42
[T T Brown]

(37) Dec 26, 1942 [64]

To develop the hot cathode emitter outlined on
...
distance travelled, ie, the length of the dielectric

(38) ? [?]

and a direct function of the applied voltage.
...
On the other hand, it may be found desirable to permit the dielectric to “run hot” for several
* See P. 64. TM0, 1 wave.

(39) Dec 26, 1942 [66]

Reasons:
...
dielectric would be maintained and the “plate”

(40) [S 24]

Tests of the Principle No. 4
...
and transmitted to the walls of the tank.

(41) [S ?]

Tests of the Principle No. 5
...
electron emission.

(42) [S 26]

Tests of the Principle No. 6
...
Fig. 28 hows the parallel connection of a multiplicity of “Cells”.

[T T B]

(43) [S 2?]

The Electro-gravitational equilibrium
...
more distant are the more negative.

(44) [S ?]

In a sense, one may imagine the gravitational
...
It is probable that the potential difference between the sun and its planets increases more slowly as the distance from the sun increases, as

[diagram]

Electrical Potential of the Planets due to Gravitational Field of the Sun

* [?] [“?”]

(45) [S 2?]

By the same reasoning, the potential of the
...
disappears as the [deleted: velocity} acceleration approaches that of [deleted: light] G.

(46) [S ??]

The disappearance of the induced gradient
...
Centrifugal force not opposed by an equal gravitational force should produce gradient differentials.

[diagram]

Electric field & gradient differential due to rotation.
Fig. 32. Spinning Disc.

(47) Feb 1?, 1943 [?]

Centrifugal (electrogravitational) generator
...
increased by an optional battery the force is further increased.

(48) [S3?]

The effect of rotation is equivalent to the
...
Strong gradients would be “maintained” against leakage only.

(49) Feb 22, 1943 [S 33]

Tests of the Principle No. 7
...

might reach accordingly high values.

(50) Feb 22, 1943 [S 34]

Tests of the Principle No. 8
...
and therefore will be disclosed in succeeding pages.

(51) Feb 23, 1943 [S ?]

Electric gradient differential versus space potential
...
forces would be present.

[diagram]

Fig. 39. (no force)

(52) [S ?]

If, however, a condition should be set up where
...
increased. Thus:

[diagram]

Increase of force with K gradient differential

(53) [S 3?]

A gradient in K tends to straighten
...
Experimental cone of graduated K

[diagram]

Fig 42

(54) Mar 1, 1943 [S 3?]

Tests of the Principle No. 9
...
to have considerable promise.

(55) Mar 3, 1943 [S ?]

Test of the Principle No. 10
...
progressive electric breakdown.

Witnessed as to date:

[Ralph H Swift] 3/3/43
[William F Mansham] ?
[T T Brown]

(56) Mar 3, 1943 [S 4?]

Excitation potential – AC vs DC
...
frequency used, thus creating a tuned circuit.

(57) May 2, 1944 [S ?]

Brownian Movement
...
by a varying magnetic field.

(58) [?]

Another method of approach might be
...
have hardened in an electric field.

(59) [S 43]

Space Pressure equivalent to Gravitation
...
at an approaching light (or other electro-

(60) [?]

magnetic wave, one would “see” merely a
...
the radiating dipole, that is, to the side

(61) [?]

of the dipole, then by the same token, it
...
from that space. One would say that this space

(62) [?]

is negative and “of the same composition” as the
...
This then, would be the positive electrical [continuum?], more than likely just plain zero.

(63) [?]

By such reasoning, only one “kind” of electricity
...
to the electrical potential of the dipole.

[diagram]

(64) [S 10]

In intra-galactic space, a negative charge
...
charge and toward the positive charge.

[equation]

(65) [S 11]

[diagram]

Spae pressure in vicinity of elec. dipole

Force depends upon the mass of the point
...
space pressure differential and force than if polarity is reversed.

(66) [S1?]

If the steepest gradient is near the positive
...
comprises the electromagnetic radiation.

(67) [S ?]

The gravitational field, therefore, is the “slope”
...
be utilized. Thus, the greatest gradient occurs

(68) [S ?]

near the pole having the greatest (absolute)
...
Connection 12 (d) is therefore the optimum.

(69) [S ?]

These four connections are formed to give forces
...
2. “windshield” side of Earth positive

(70) [?]

Therefore, it is indicated that the solar
...
* Distance to galactic center appears 10,000 parsecs (32,500 light years)

Orbital speed – 275 km/sec (620,000 mph)

(71) ? [S 2?]

Tests of the Principle No. 1
...
be a function of the mass of the glass tube.

(72) [S 2?]

Tests of the Principle No. 2
...
[diagram]

Types of dielectric wedges (sections of cones)

(73) [S 2?]

Tests of the Principle No. 3
...
principally in the direction opposite.

(74) [S ?]

The electrogravitational equivalence revealed by the
...
Acceleration produces practically the same electrical condition. Thus acceleration and gravitation are closely related.

(75) [S ?]

If, due to gravity, a dielectric body accelerates
...
Negative acceleration throws the steep gradient to the first [deleted: or positive] ? In the zero ? (? if the ? Gradient ? ? )

(76) [?]

A modification of the explanation beginning on P. S16
...
the steepest gradient in the rear.

(77) [?]

The Effect of Dielectrics of Various K
...
an increase in K would be actually a mass-effect.

(78) Dec 30, 1942 [71]

“Splash” Radiation
...

Radiation is “reinforced” in travelling toward the high-voltage end of the dielectric. One explanation is

(79) Jan 1, 1943 [72]

that the high-voltage end “appears” inductive,
...
currents, therefore, are greater.

(80) Jan 1, 1943 [?]

Heat energy, derived from the ohmic resistance
...
from both the dielectric current and the total “electronic” current.

(81) Jan 1, 1943 [74]

Serving as a plate, a conical metallic
...
It will be noted that the design suggested above is much the same as that shown on P. 33 with the elements reversed in position.

(82) Jan 1, 1943 [?]

[diagram]

Resistor-cathode (hot dielectric) Radiator
...
6. Dielectric gradient distorted only in accordance with load of plate current. Impedance self adjusting.

Witnessed as to date

[?] ?/?/43
[T T Brown]

(83) Jan 5, 1943 [76]

Self-oscillating Antenna
...
of the dipole. The parabolic reflector, Fig. 2, acts also as a positive electrode or plate.

Suggested manufacturers of resistor-cathodes:

Glading McBeam
[Ohm?ite] – Chicago, Ill.
Pacific Clay Products Co

(84) Jan 6, 1943 [?]

Resistance of cathodes – current requirements
...

Note: Length of radiator about 6% less than lambda/2, due to end capacitor

(85) Jan 12, 1943 [78]

Influence of a magnetic field
...
Since more electrons would be “in transit” at any instant, the negative space charge likewise would be increased.

(86) [79]

Misc. Data

Orbital speed of Earth 18.6 mps or 66,960 mph
Sidereal speed of Earth 12 mps or 43,200 mph

(87) []

[calendar: Jan, Feb, March, April]

(88) []

[graph]

(89) []

[graph: Assumed (a) phase velocity]

(90) [31] [S1]

Part II
Structure of Space

It can be pointed out that the failure of
...
of an ether possessing substantially these properties.

(91) [32] [S2]

Meaning of K and mu
...
The force of gravitation would then be the tendency to migrate to the higher K and mu.

(92) [33] [S3]

Another interpretation is that the force of
...
* Heavyside “Electromagnetic Theory” P ?

(93) [S ?]

GLASS BALL

two masses would be pressed together
...
* Ross, New Views of Space, Matter & Time. P. 333

(94) [S 5] [?]

Since unit positive and negative charges are the
...
of massie bodies, and outward (radial) pressures are maximum.

[diagram]

Space Pressure
K mu not necessarily K x mu
Fig 4

(95) [S ?]

When the unit positive and negative charges are
...
in extra-galactic space at an indefinite distance from all matter.

(96) [S ?]

This value will be negative with respect to
...
space energy or pressure gradient which makes it an

(97) [S ?]

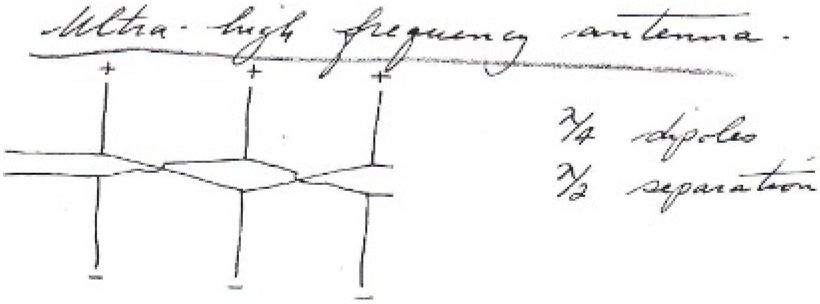
entity ceases to exist. It is conceivable that
...
Electrons and [deleted: protons] positrons are complementary – one tending to increase and the other to decrease

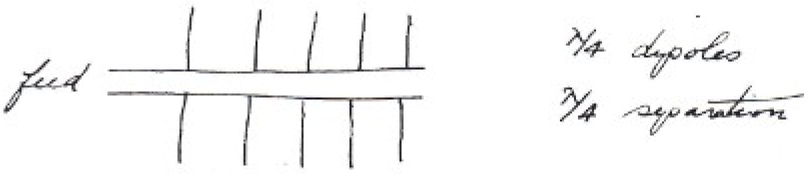
(98) [S ?]

the space potential of the region wherein they exist.
...
first derivative of the electric field.”

(99) Dec 1, 1942 [1]

<u>Ultra-high frequency antenna </u>(multiple dipoles)



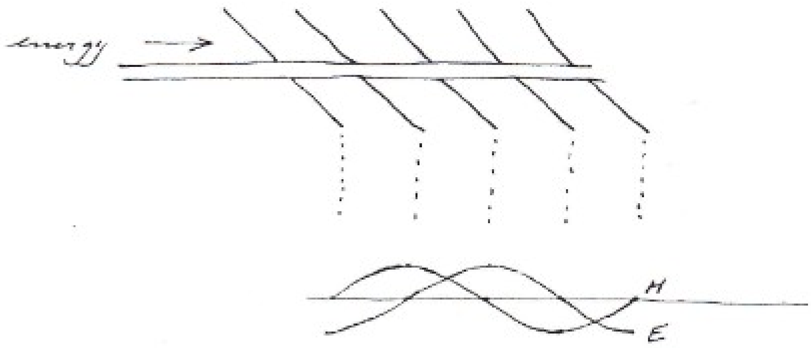




Assuming a matched transmission line with 3/4 dipoles disposed along it:

(a) Radiation would be directed away from the feeder end.

(b) Mechanical reaction toward feeder end.

Estimate of forces and their direction.




The forces developed on adjacent dipoles due to magnetic radiation of one set of dipoles is as shown on following curve.

(100) [?]

High Frequency Radiating System
...

Dated this 24th of November, 1942 at ?, ?

Witnesses as to signature and date:
[?]
[?] 11/24/42
[Thomas Townsend Brown]

(101) Dec 1, 1942 [3]

It is noted that the net force is in the

...
The mechanical reaction in the opposite sense is analogous to the “kick” of the hose nozzle.

* “Beverage Antenna” [Hengy?] Rach’s Eng. Handbook. P. 681

(102) [4]

This consideration now resolves itself into two objectives:
...
energy would be reflected back to the source and no standing waves would be formed.

(103) [5]

Again the situation must be analogous to
...
Assuming leakage along the surface of the dielectric the gradient will be as follows:

[diagram]

Gradient (also distribution of Q)

(104) [6]

If transients are produced in a dielectric
...
If penetration of the dielectric occurs, it is possible that standing waves (internal) are produced.

(105) [7]

As the “splashes” travel along, they are progressively reinforced by:
...
and will be reinforced or attenuated depending on the disrection they are going.

(106) [8]

In the original disclosures of the dielectric
...
“splash” theory of transients.

(107) Dec 4, 1942 [9]

magnetic field

[diagram]

To begin with, let us assume a
...
Successive points produce waves of electrons, regions of maxima and minima.

(108) [10]

The expanding electro-magnetic radiation

...
the results for the time being.

(109) []

[diagram]

As a control oscillator, No. 1 is most effective
...
Modifications for practical use

[diagram]

or in the form of discs with the same spacing.

(110) Dec 7, 1942 [12]

Series Condenser
...
to generate 10 cm waves.

(111) Dec 7, 1942 [T T Brown]

As an alternate to this design, for
...
is greatest. The mechanical reaction is in the appropriate direction.

(112) [14]

To increase capacitance between successive
...

[diagram]

Equivalent circuit

(113) []

External excitation
...
The excitation determines the direction of radiation and mechanical reaction, due, presumably, to the direction of the train of waves caused by interacting dipoles.

(113) Dec 7, 1942 [T T Brown]

[diagram]

To illustrate the action of excitation,
...
As a practical improvement, the following suggestions are offered:

[diagram]

(115) Dec 7, 1942 [?]

It may be found desirable to use a
...
charge would be created at the same end.

(116) Dec 8, 1942 [T T Brown]

Thus, it appears that the “system” can
...
pulsating direct current at the mu A meter.

(117) Dec 8, 1942 [T T Brown]

If it is desirable to use the system to
...
based on the use of a “negative tickler” or cathode as in the above circuit.

(118) Dec 8, 1942 [T T Brown]

The theory of this action may be described briefly as follows:

[diagram]

ends of the system would then actually be an indication

(119) []

of the absorption of energy. Theoretically, the
...
It follows that, for a unit length of dielectric, the absorption depends on the number of dipoles and the voltage.

(120) Dec 8, 1942 [22]

To determine accurately the point of origin of
...
Witnessed this 8th of December, 1942
[B F Jenkins 12/8/42]
[Carlo Re 12/8/42]
[T T Brown]

(121) Dec 8, 1942 [T T Brown]

To explain the directional effect, both
...
is more highly negative.

(122) [?]

A block of dielectric material, containing

...
The dipoles oscillate without [charge?] or resistance and the radiation is not absorbed.

[diagram]

(123) Dec 8, 1942 [25]

Fig. 1 shows the condition of the circuit where
...
Values of voltage shown in the curves are fictitious and are used mainly to further the explanation.

(124) [26]

It is apparent that radiation pressure will be
...
with respect to the dielectric system.

(125) Dec 9, 1942 [27]

In order to understand fully the action of
...
diodes is less than lambda/2, except to increase the effect.

(126) ? [T T Brown]

If directional information is not desired, the
..
in the system as a whole, due to cancellation.

(127) Dec 9, 1942 [T T Brown]

Examining in detail the action of such a
...
reinforced and energy is applied in pulse form.

[diagram]

(128) Dec 9, 1942 [30]

No. 1

[diagram]

To observe the angle of rise against gravity
...
No. 4. Same as No. 3 with tickers of various lengths and shape.

(129) Dec 9, 1942 [31]

No. 5 Comparison of dielectric rods and tubes 10 cm diameter. Various materials.

...

No. 10. Attempt to receive radiation by another dielectric system, as on page 22. Observe, if possible, natural radiation from space (sidereal radiation) and its direction of approach.

(130) Dec 10, 1942 [T T Brown] [32]

Special test for demonstration of forces.

[diagram]

...
the system will move as indicated.