Voltage Intensifier Circuit (60)

By integrating and joining together **variable voltage amplitude control signal** (318 xxx 32n) of Figure (3-15) with **variable controlled switch-gate** (49a xxx 49n) of Figure (3-18) across **primary coil** (26) of Figure (3-22),

Figure (3-15)

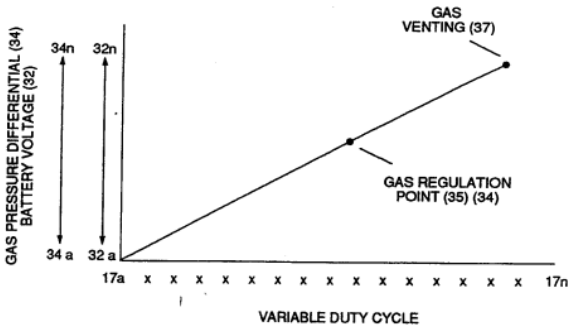


FIGURE 3-15: GAS REGULATOR CONTROL

Figure (3-18)

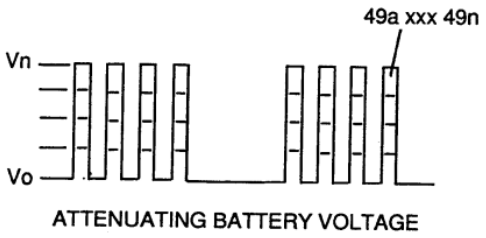


FIGURE 3-18: VARIABLE AMPLITUDE PULSE TRAIN

variable amplitude pulse-train (51a xxx 51n) of Figure (3-19) is electromagnetically coupled (**transformer action**) to **secondary coil** (52) of Figure (3-22) by way of **pulsing core** (53) of Figure (3-23) as to Figure (3-22).

Figure (3-19)

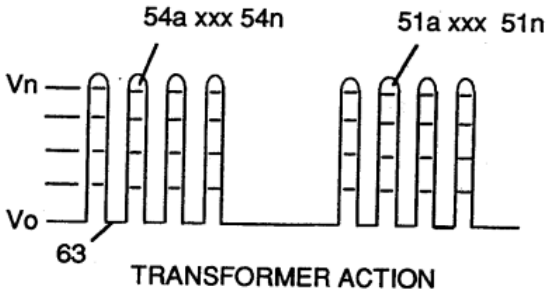


FIGURE 3-19: SETUP VOLTAGE PULSE TRAIN

Figure (3-22)

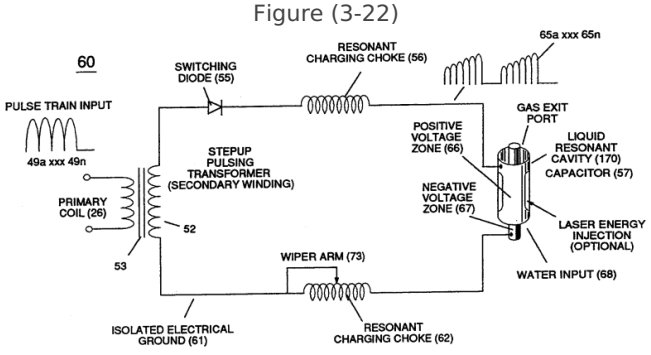


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Analog voltage signal (32a xxx 32n) of Figure (3-15) allows **pulse train** (51a xxx 51n) **voltage amplitude** (V0 xxx Vn) of Figure (3-19) to vary from **one** up to **twelve** volts *(battery supply 28 of Figure 3-6* by attenuating **Laser Accelerator circuit** (10) of Figure (3-

5) via **Hydrogen Gas Control Circuit** (100).

Figure (3-15)

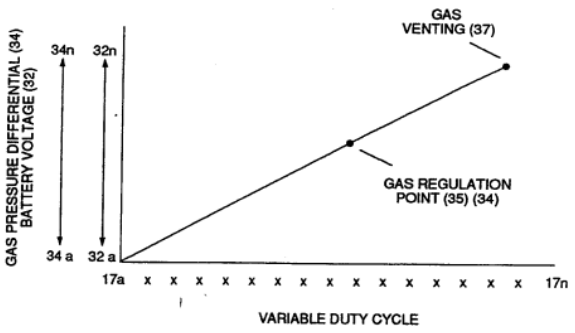


FIGURE 3-15: GAS REGULATOR CONTROL

Figure (3-5)

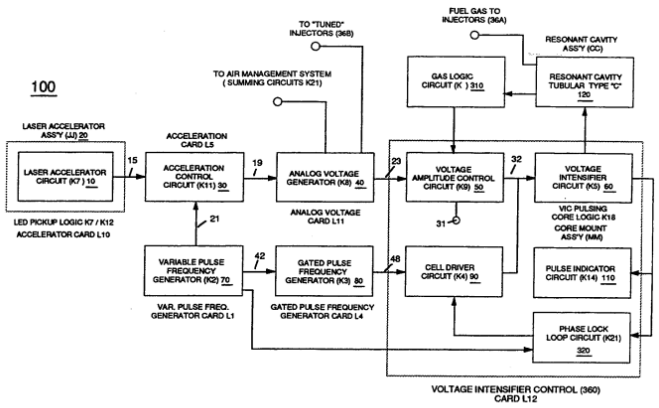


FIGURE 3-5: HYDROGEN GAS CONTROL CIRCUIT

Variable pulse frequency generator (70) of Figure (3-5) varies and adjusts **pulse frequency** (63) *(50% duty cycle pulse)* while **gated pulse frequency generator** (80) of Figure (3-5) varies and adjusts **pulse width** (54a xxx 54n).

These controlled and variable pulse features are, now, translated to **Resonant Charging pulse train** (65a xxx 65n) of Figure (3-21) via **Unipolar pulse train** (64a xxx 64n) of Figure (3-20) during **Resonant Action** (160) of Figure (3-26) when signal coupling is applied across **Resonant Cavity** (170) of Figure (3-24) via **positive voltage zone** (66).

Figure (3-21)

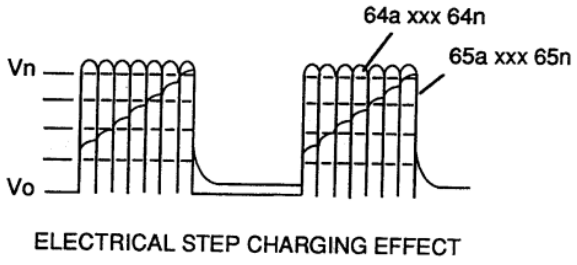


FIGURE 3-21: RESONANT CHARGING PULSE TRAIN

Figure (3-20)

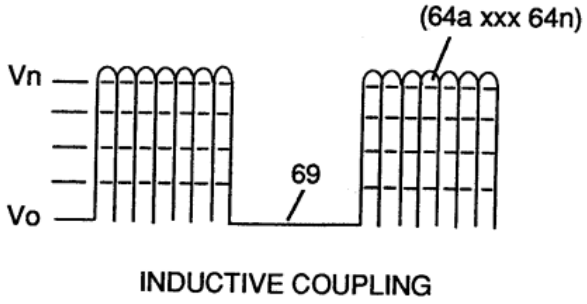


FIGURE 3-20: GATED UNIPOLAR PULSE TRAIN

Figure (3-26)

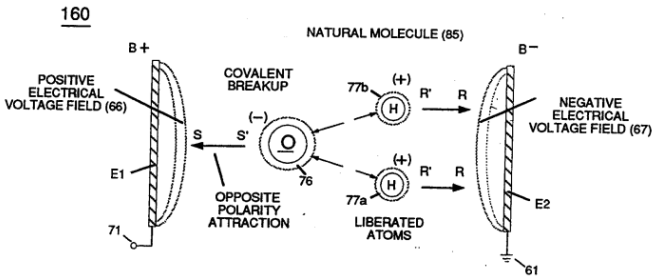


FIGURE 3-26: ELECTRICAL POLARIZATION PROCESS

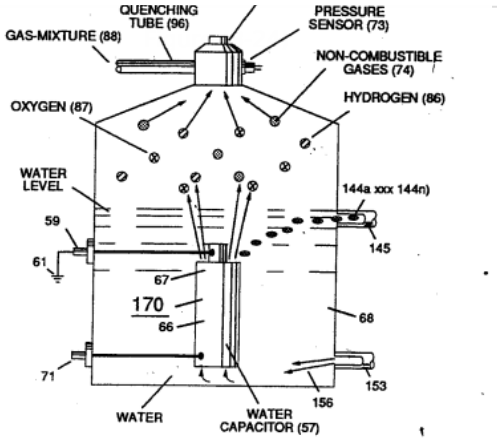


FIGURE 3-24: FUEL CELL

Negative electrical voltage potential (61) of **pulse wave** (65a xxx 65n) of Figure (3-21) is simultaneously applied to **negative voltage zone** (67) via **Resonant Charging Choke** (62) of Figure (3-22) which is electrically linked to opposite end of **Primary Coil** (26).

The resultant **signal coupling** (65a xx 65n) of Figure (3-21) is accomplished since **primary coil** (26), **pulsing core** (53), **secondary coil** (52), **switching diode** (55), **resonant charging choke** (56), **resonant cavity assembly** (170), **natural water** (68), and **variable resonant charging choke** (62) forms **Voltage Intensifier Circuit** (60) of Figure (3-22), as illustrated in Figure (3-22) as to Figure (3-23).

Figure (3-22)

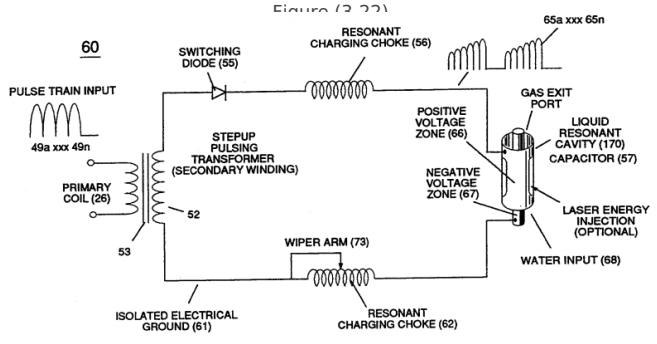


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Figure (3-23)

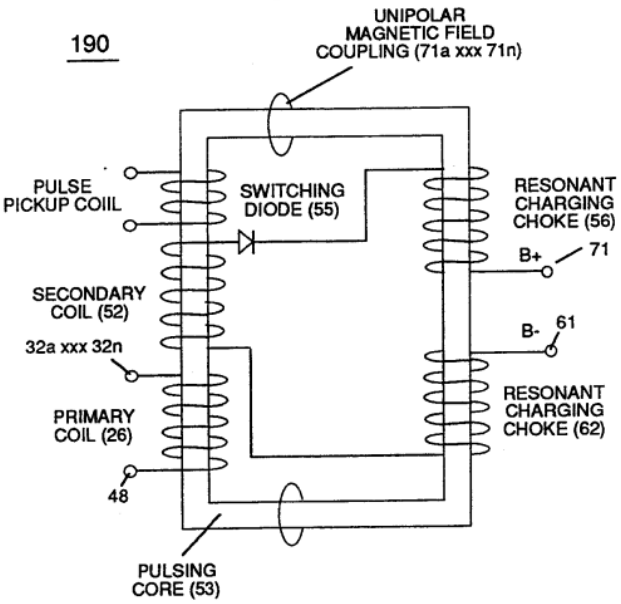


FIGURE 3-23 : PULSING CORE CONFIGURATION

Negative electrical ground (61) of **voltage Intensifier circuit** (60) of Figure (3-22) is electrically isolated from **primary electrical ground** (48) of Figure (3-22).

Pulsing transformer (26/52) of Figure (3-22) steps up voltage amplitude or **voltage potential** (Vo xxx Vn) of Figure (3-19) during pulsing operations.

Primary coil (26) is electrically isolated (*no electrical connection between primary 26 and secondary coil)* to form **Voltage Intensifier Circuit** (60) of Figure (3-22).

Voltage amplitude or **voltage potential** (Vo xxx Vn) is increased when **secondary coil** (52) is wrapped with more turns of wire.

Isolated electrical ground (61) prevents electron flow from **input circuit ground** (48).

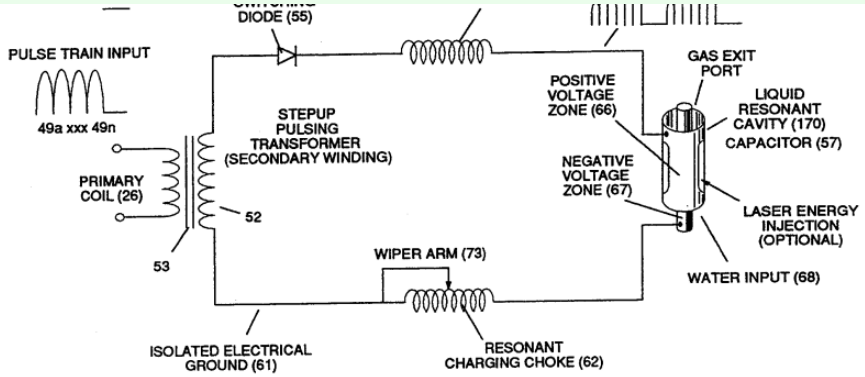


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Switching diode (55) of Figure (3-22) not only acts as a blocking diode by preventing electrical "**shorting**" to **secondary coil** (52) during **pulse off-time** (69) of Figure (3-20) since **diode** (55) "only" conducts electrical energy in the direction of schematic arrow;

but, also, and at the same time functions as an **electronic switch** which opens **electrical circuit** (60) during **pulse off-time**

...allowing magnetic fields of both **inductor coils** (56/57) to collapse ... forming **pulse train** (64a xxx 64n).

Resonant charging choke (56) in series with **Excitor-Array** (160) of Figure (25) forms an **inductor-capacitor circuit** (180) of Figure (3-28) since **Excitor-Array** (66/67) acts and performs as a capacitor (*dielectric liquid between opposite electrical plates*) during pulsing operations.

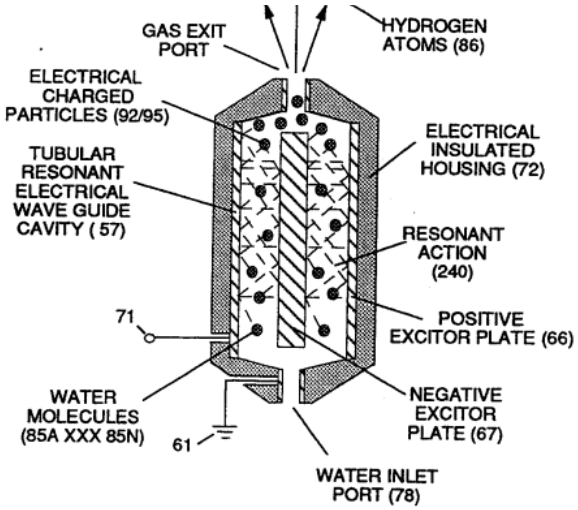


FIGURE 3-25: RESONANT CAVITY

The **dielectric properties** (*insulator to the flow of amps*) of **natural water** (68) of Figure (3-28) as to Figure (3-26)

> *(dielectric constant of water being 78.54 @ 20C in 1-atm pressure)* between **electrical plates** (66/67)

forms **capacitor** (57), as illustrated in (170) of Figure (3-25).

Figure (3-26)

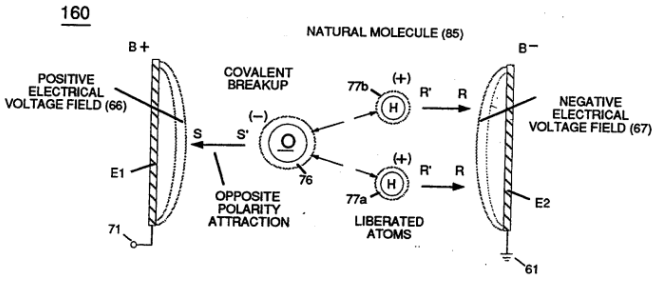


FIGURE 3-26: ELECTRICAL POLARIZATION PROCESS

Figure (3-28)

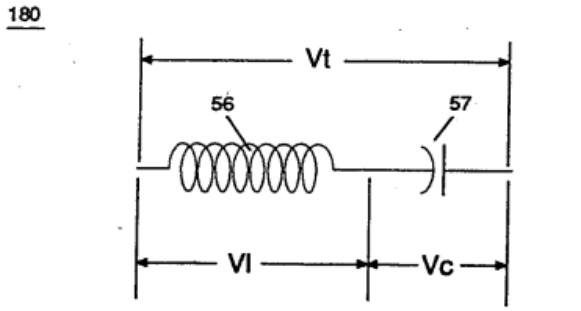


FIGURE 3-28: LC CIRCUIT SCHEMATIC

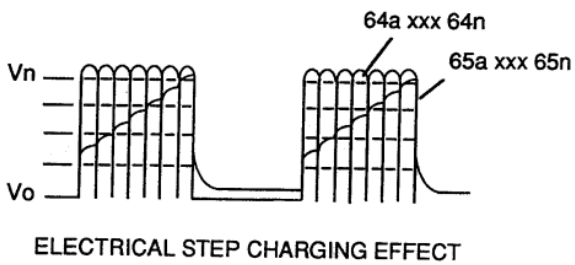
Water now becomes part of **Voltage Intensifier circuit** in the form of "**resistance**" between **electrical ground** (67) and **pulse-frequency positive potential** (66) ... helping to prevent electron flow within **pulsing circuit** (60) of Figure (3-22).

Inductor (56) and **capacitor** (57) properties of LC circuit (180) is therefore "**tuned**" to resonate at a given frequency.

Resonant frequency (63) of Figure (3-19) can be raised or lowered by changing the **inductance** (56) and/or **capacitance** (57) **valves**.

The established **resonant frequency** is, of course, independent of voltage amplitude, as illustrated in Figure (3-21) as to Figure (3-18).

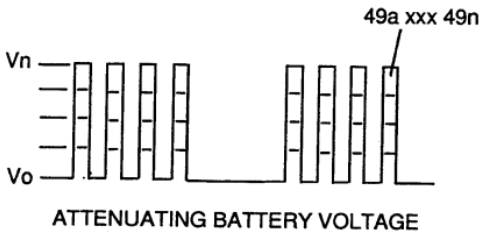
Figure (3-21)



ELECTRICAL STEP CHARGING EFFECT

FIGURE 3-21: RESONANT CHARGING PULSE TRAIN

Figure (3-18)



ATTENUATING BATTERY VOLTAGE

FIGURE 3-18: VARIABLE AMPLITUDE PULSE TRAIN

The value of **inductor** (56), value of capacitor (57), and the **pulse-frequency** (63) of **voltage** (Yo xxx Vn) being applied across the LC circuit determined the impedance of LC circuit (Figure 3-28).

The impedance of **inductor** (56) and **capacitor** (57) in series, Z series is given by (Eq 1)

(Eq 1)

$$Z\,\text{series} = (Xc - Xl)$$

where **Resonant frequency** (63) of LC circuit in series is given by (Eq 4)

(Eq 4)

$$F = \frac{1}{2\pi\sqrt{LC}}$$

Ohm's law of LC circuit (180) of Figure (3-28) in series is given by (Eq 5)

(Eq 5)

$$Vt = I\,Z$$

The voltage across **inductor** (56) or **capacitor** (57) is greater than **applied voltage** (49) of Figure (3-18).

Figure (3-18)

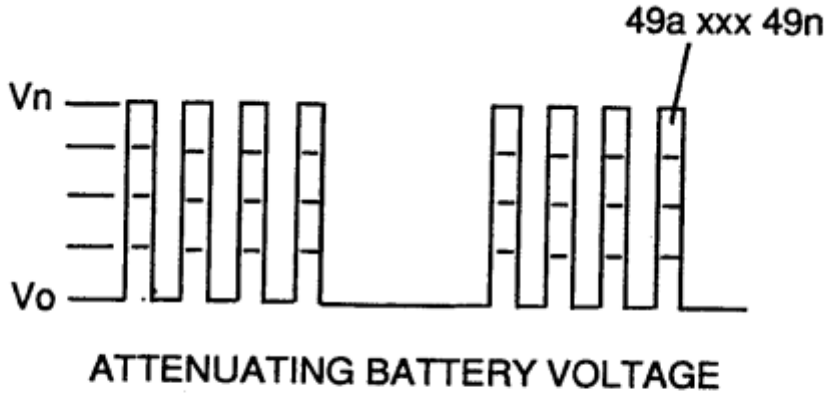


FIGURE 3-18: VARIABLE AMPLITUDE PULSE TRAIN

At frequency close to resonance, the voltage across the individual components is higher than **applied voltage** (49), and, at resonant frequency, the **voltage** (Vt) of Figure (3-28) across both **inductor** and the **capacitor** are *theoretically infinite*.

However, **physical constraints** of components and circuit interaction prevents the voltage from reaching infinity.

The **voltage** (Vl) across **inductor** (56) is given by equation (Eq 6)

(Eq 6) -

$$Vl = \frac{Vt\ Xl}{(Xl - Xc)}$$

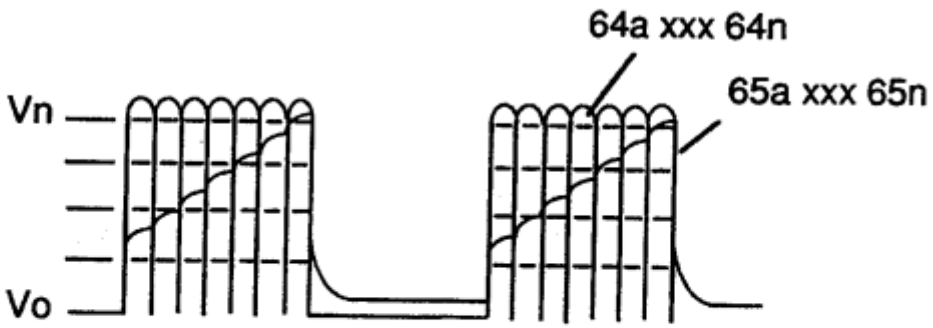
Voltage (Vc) of Figure (3-28) across the **capacitor** is given by (Eq 7)

(Eq 7)

$$Vc = \frac{V\,t\ Xc}{(Xl - Xc)}$$

During resonant interaction, the **incoming unipolar pulse train** (64a xxx 64n) of Figure (320) as to Figure (3-21) produces a **step charging voltage effect** across **excitor-array** (66/67) (57) as so illustrated in Figure (3-21).

Figure (3-21)



ELECTRICAL STEP CHARGING EFFECT

FIGURE 3-21: RESONANT CHARGING PULSE TRAIN

Voltage intensity increases from **zero** "**ground-state**" to a **high positive voltage potential** in an progressive function.

Once **voltage-pulse** (64) is terminated or switch-off, **voltage potential** returns to "**ground-state**" (61) or near ground-state *(**diode** 55 maintains voltage charged across capacitor 57)* to start the voltage deflection process over again as pulse train (64a xxx 64n) continues to be duplicated.

"Voltage intensity or level across **excitor array** (57) can *exceed 20,000 volts* due to **circuit** (60) interaction and is directly related to **pulse train** (64a xxx 64n) **variable amplitude** input.

Inductor (56) is made of or composed of **resistive wire** to further restrict D.C. current flow beyond **inductance reaction** (Xl), and, is given by (Eq 8)

(Eq 8)

$$Z = \sqrt{R_I^2 + (X_l - X_c)^2}$$

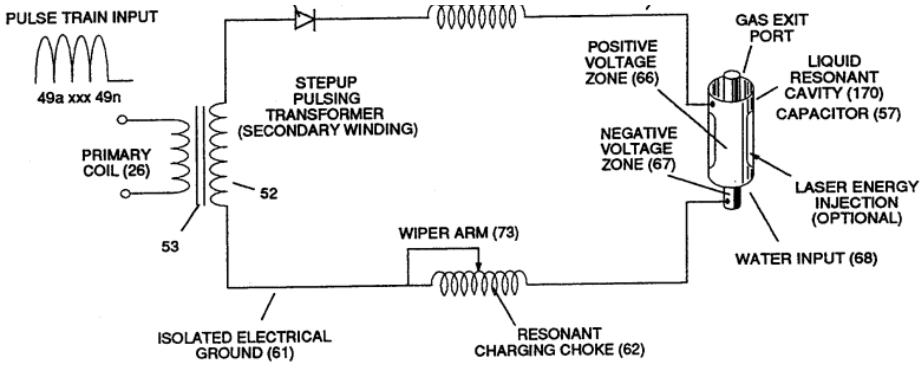


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Variable inductor-coil (62)

of Figure (3-22), similar to **inductor** (56) connected to **opposite polarity voltage zone** (67) further inhibits electron movement or **deflection** within **voltage intensifier circuit** (60).

Movable wiper arm (73) of Figure (3-22) fine "tunes" "**resonant action**" during pulsing operations.

Inductor (62) in relationship to **inductor** (56) electrically balances the **opposite electrical potential** across **voltage zone (**66/67).

Since **pickup coil** (52) is also composed of or made of **resistive wire-coil**, then, **total circuit resistance** is given by (Eq 9)

(Eq 9)

$$Z = R_I + Z_2 + Z_3 + R_E$$

where, RE is the **dielectric constant** of natural water.

Ohm's law as to **applied electrical power**, which is (Eq 10)

(Eq 10)

$$E = IR$$

where, (Eq 11)

(Eq 11)

$$P = EI$$

Whereby,

> **electrical power** (P) is an linear relationship between two variables, **voltage** (E) and **amps** (I).

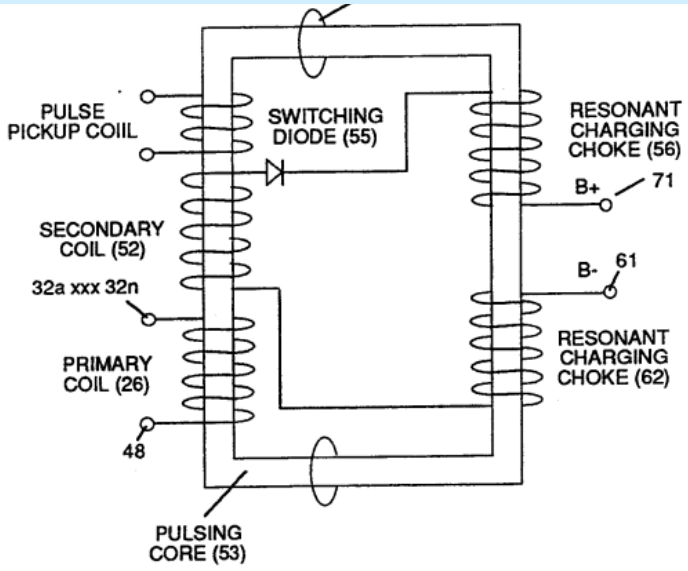


FIGURE 3-23 : PULSING CORE CONFIGURATION

Amp restriction *beyond* "**resonant action**"

occurs when **unipolar magnetic field coupling** (71) of Figure (3-23) is allowed to simultaneously drop (*pulsating magnetic field*) across **both resonant charging chokes** (56/62) during pulsing operations since **electron mass** is an **electromagnetic entity** which is **subject to inductor fields** (56/62) produced by **pulsating magnetic field** (71a xxx 71n) of Figure (3-23).

> **Amp leakage** (*electron coupling to water*) **to water bath** (68) of Figure (3-24) is further prevented by encapsulating **resonant cavity** (57) in **delrin material** (72) of Figure (3-25) which is an electrical insulator to high voltage.

Figure (3-24)

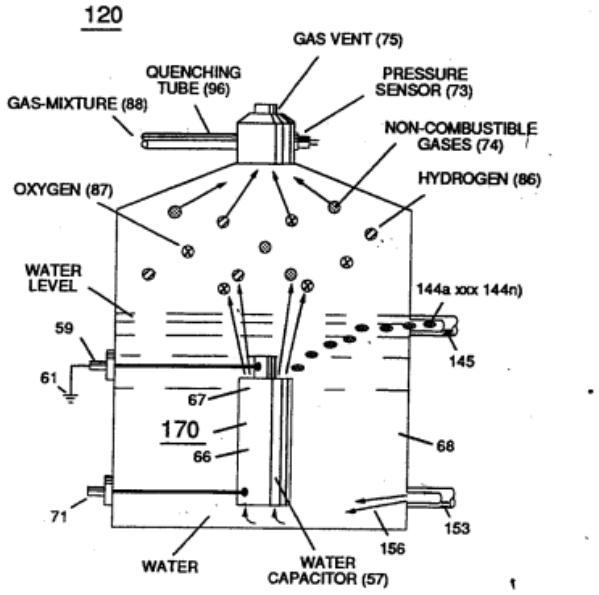


FIGURE 3-24: FUEL CELL

Figure (3-25)

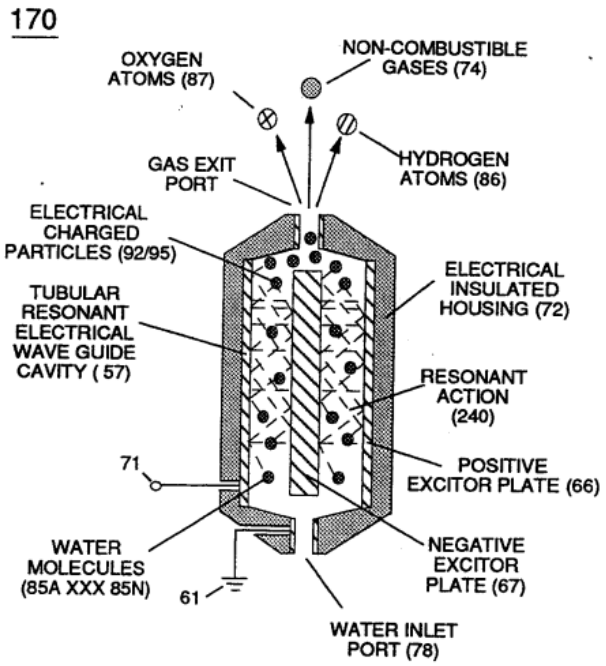


FIGURE 3-25: RESONANT CAVITY

Delrin material (72) **insulator value** remains intact since insulation material (72) is resilient to water absorption.

Inherently, then, **pulsing core** (53) of Figure (3-23) aids amp restriction while **voltage intensifier circuit** (190) is being "**tuned**" (*adjusting pulse train 49a xxx 49n pulse-frequency 63 via pulse frequency generator 70 of figure 3-5*) to match the resonant frequency properties of **water bath** (68) of Figure (3-22), as illustrated in **Fuel Cell** (120) of Figure (3-24).

Figure (3-22)

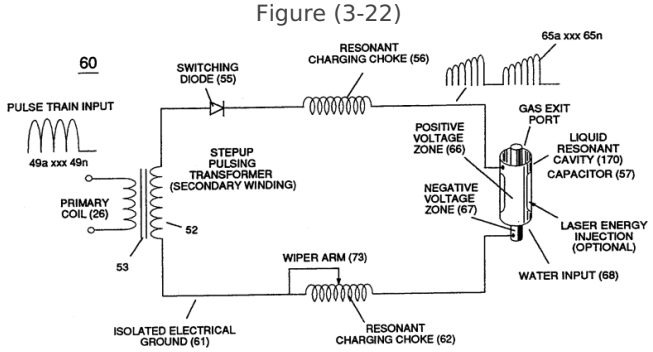


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Figure (3-23)

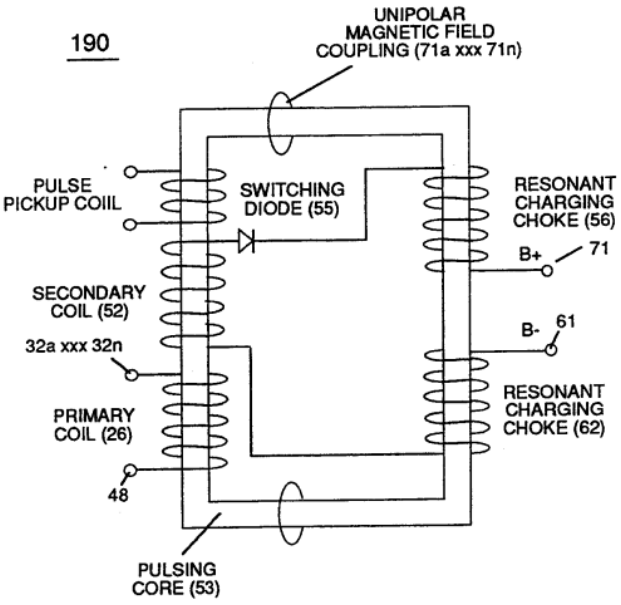


FIGURE 3-23 : PULSING CORE CONFIGURATION

The resultant **interfacing voltage circuit** (190), now, exposes **water molecule** (210) of Figure (3-27) to a **pulsating high intensity voltage field** (65a xxx 65n) of **opposite polarity** (66/67) while restricting amp flow within **circuit** (60) of Figure (3-22).

Figure (3-22)

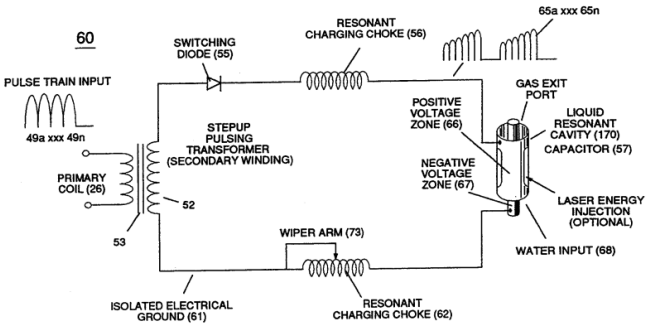


FIGURE 3-22: VOLTAGE INTENSIFIER CIRCUIT

Figure (3-27)

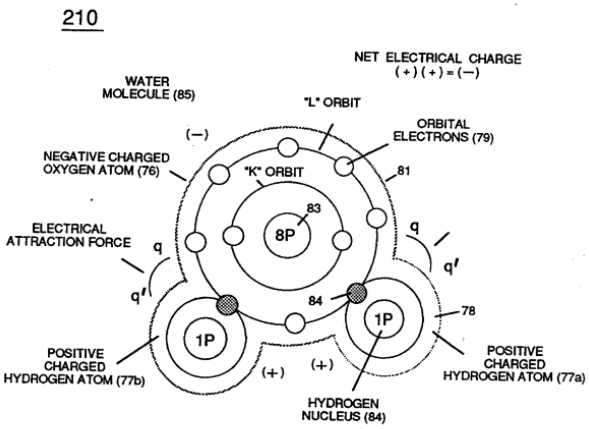


FIGURE 3-27: ELECTRICALLY CHARGED WATER MOLECULE

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