## resonator

noun: the part that makes sounds resonate inside a musical instrument or piece of equipment noun: any system that resonates noun: an electrical circuit that combines capacitance and inductance in such a way that a periodic electric oscillation will reach maximum amplitude noun: a hollow chamber whose dimensions allow the resonant oscillation of electromagnetic or acoustic waves

A Helmholtz resonator is an open vessel of glass, metal, cardboard, or other material, of such dimensions, that the mass of air contained in it resounds to a note of a certain pitch. Its use is, to assist the ear in discriminating a sound of this particular pitch, from a number of others at different pitches, all sounding simultaneously.

Also any object that oscillates or vibrates usually for some purpose or utility.

## Keely

"That tuning forks can be so constructed as to show coincident or concordant association with each other, is but a very weak illustration of the fact which governs pure acoustic assimilation. The best only approach a condition of about a fortieth, as regards pure attractive and propulsive receptiveness. By differentiating them to concordant thirds, they induce a condition of molecular bombardment between themselves, by alternate changes of long and short waves of sympathy. Bells rung in vacuo liberate the same number of corpuscles, at the same velocity as those surrounded by a normal atmosphere, and hence the same acoustic force attending them, but are inaudible from the fact that, in vacuo, the molecular volume is reduced. Every gaseous molecule is a **resonator** of itself, and is sensitive to any and all sounds induced, whether accordant or discordant." [attractive and propulsive receptiveness] [Snell Manuscript - The Book, GRADUATION OF MACHINES, page 5]

"No such thing as discord exists in the molecule. Discordance results from chords producing differentiation and may be equated by the proper chord of harmony. Every gaseous molecule is a **resonator** to any and all vibrations, whether concordant or discordant. That which we term discord exists in sound itself, not in matter." [Snell Manuscript - the book, DISCORD - Snell]

"Inaudible vibrations are tested by the magnetic needle and sound colours. Every gaseous molecule is a **resonator** of itself and is sensitive to any and all sounds induced, whether accordant or discordant. At the normal density of the atmosphere we hear a volume of sound, focalized by the combined association of every molecule brought under sound influence. When we reduce the atmospheric volume of a chamber to <sup>50</sup>/<sub>100</sub>, then the ear is sensitive to the reduction of the acoustic force evolved on the same ratio, and so on, until sound becomes inaudible. This inaudibility to our organ of hearing is no proof whatever of any reduction of the acoustic force evolved on the introductory impulse given to the bell. If is only a proof that the number of the molecules left for the acoustic force to act upon has been so reduced by increasing the vacuum, that the concentration of sound from the diminished number cannot be heard. The ear is not susceptible to the acoustic force emanating from one molecule, nor even from the concentration of one hundred millions of billions molecules. The highest vacuum that can be induced, taking but a cubic inch in volume to act upon, will leave a residual number of molecules one hundred billion times as great as the above given number and yet be perfectly inaudible when all their acoustic force are focalized." [Vibratory Physics - The Connecting Link between Mind and Matter]

"In organ pipes, of a certain calibre, very sensitive waves occur at intervals; as according to the character of the sound evolved; but on a combination of **resonators** composed of brass tubes of more than nine in number, a wave of sound, induced by certain chords passing over them, produces high vortex action of the air enclosed in them. The vibration of tuning forks induces alternate condition of the air that surrounds them, if in open atmosphere; but quite a different action presents itself when the forks are exercised in resonating tubes, set to thirds of the mass chord they represent. Then high vortex action is the instant result. Vibrators cannot be set

promiscuously in **tubes**, and get such results, any more than a musician can render a musical composition on the violin before tuning it." [Appendix I]

"The series of experiments, daily for one week, that I am now preparing to give before an expert committee, for the purpose of enabling this committee to make a public announcement of the scientific and commercial value of my system of sympathetic vibratory physics, comprises:

**First.** - Operation of the polar circuit, drawing power from space, and showing control of various degrees of velocity.

Second. - Sensitization of a polar disk, after having had its complete neutrality to magnetism tested.

**Third.** - After associating it with the polar test-medium, heavily weighting it to demonstrate its attractive power; the weight remaining suspended to it by this power.(7)

**Fourth.** - Transmitter connected to the test-medium, while the disk is carrying the weight. Negative vibration transferred; effecting complete dissociation; the disk and weights dropping to the floor.

**Fifth.** - Rotation of compass needle, on a set of **resonators**, subservient to any one of the **resonators**, in defiance of its attraction to the north. Variations given; changing its subservience to different **resonators**, as the introductory impulse is changed.(8)

**Sixth.** - Mediums, representing the chords of different masses of metal, made to float in a tall jar of water, with extraordinary changes of position.

Seventh. - Operations of a sensitized globe, by sound.

**Eighth.** - Operations of the globe under the influence of the improved polar sympathetic transmitter.

**Ninth.** - Disintegration of water by triple vibration,(9) showing progressive degrees of energy (from molecular to interatomic, etc., etc.) on different rates of transfer." [The Operation of the Vibratory Circuit]

## Volumetric Resonator, Keely's

MacroSonix Corp. is a research and development company specializing in commercializing products based upon its core technologies, including its proprietary technology known as Resonant Macrosonic Synthesis, or RMS. RMS utilizes high-energy resonant sound waves inside closed cavities to perform mechanical functions such as compressing gases. The sound waves are typically actuated by a metal diaphragm driven by a linear motor, and use a microprocessor-based controller to maintain resonance. MacroSonix holds multiple patents on its core technologies.

http://www.rexresearch.com/lucasmacrosonix/lucas.html

See Also

air column resonance Cavity Resonator Helmholtz Resonator Microwave Resonator Oscillation Pitch Resonance Tone Vibration Volumetric Resonator 5.2 - Vortex Motions in Resonators