

The Waviform Inwindor

It is well-known that rhythmic, sinusoidal, and other wave-like, serpentine, or undulatory motions of one kind or another accompany all, or almost all, Natural processes of change, especially in the case of flow occurring in liquid, fluid, gaseous, aqueous, and aeriform media.

It is equally well-known that in the case of fully or partly ionized plasmas, and other media or components of media with motile, that is to say, freely moving, or partly freely moving charges e.g., cations (positively charged ions), anions (negatively charged ions), electrons, protons, positrons, anti-protons, muons, other charges, whether manifested as matter or mirror-matter (anti-matter), excited atomic states, situations involving unpaired electrons, reactive species, in addition to neutral or almost neutral particles, e.g., neutrinos and neutrons, and/or energies which nevertheless respond or may respond to magnetic fields, and all or nearly all other similar materials and energies are broadly characterized by sinusoidal or serpentine forms of motion due to elementary forces of magnetic, electric, or magneto-electric character, as well as compound and/or emergent forces derived therefrom.

It is of course self-evident that any serious form of high-speed fluidic acceleration (regardless of whether negative or positive) can and does lead to some degree of ionization in the working fluid, which influences and is influenced by the material properties, e.g., magnetism, non-magnetism, nobility, and overall chemistry, etc..., as well as the morphology or shape of the apparatus in question.

The present disclosure relates to an invention designed to apply these processes in the realm of fluid flows as a means of enhancing or facilitating various advantageous outcomes such as the polarization of inflowing media, the separation of differing chemical elements and/or charges/ions present therein, the production of heat and cold and their stratification, the acceleration of the working fluid, the production of various particles and/or molecules and even the triggering off of so-called Low-Energy Nuclear Reactions (LENR) and other Atomic Reactions, as well as the creation, enhancement, sustenance, and harmonization of physical rotary, torque-producing fluidic currents (which actually facilitate and reinforce the aforementioned processes and transformations).

These processes emerge from the tendency to move towards equilibrium, in other words, towards the 'lowest energy state.' In a flowing plasma current, this 'lowest energy state' is one in which the electric and magnetic fields are, in the broadest sense, parallel (or almost parallel) to one another, as opposed to the ordinary perpendicular relationship typically seen in Electrical Engineering. In this scenario, the current is free or almost free of forces, due to the angles between the relevant vectors. Currents of this kind take on a very particular Geometric structure that can be described by exact Mathematical formulations.

Should a force (Magnus or otherwise), a disturbance, or a so-called misalignment appear in an otherwise broadly similar or otherwise somewhat broadly similar flowing current, then processes will appear in said current which assist, facilitate, and embody the current's return to equilibrium. These processes, whether characterizable as convective, in any sense, magnetically compressive, pinch-related, magnetically anti-compressive, gradient-based, drift-based, or other, tend to trigger self-organization in the flowing medium, which can be viewed as the work done by the various processes on their journey back to equilibrium.

This gives rise to complex field-structures, elemental sorting, gradients of numerous kinds, and various other reactive effects, which in turn can trigger further reactive effects.

The invention consists of a mechanically and physically rotating waviform surface, surfaces, or interconnected (with respect to fluid flow) sets of such surfaces, composed of one or more metals, alloys, plastics, semi-metals, and/or other relevant materials, or combinations thereof, intended to rotate at high speeds (4,000 to 60,000 RPM), either in the sense of rotation, co-rotation, counter-rotation, rotation and non-rotation, or various combinations of velocities, regardless of 'handedness.' It can and usually does incorporate sources of magnetic, electric, or magneto-electric fields, such as permanent magnets, high voltage power sources of various kinds, coils, magnetrons (cavity and non-cavity, that is to say, coil-based), and/or fields derived from processes occurring in the flowing conductive medium itself.

These field sources are incorporated so as to advantageously influence the flow processes relevant to the intended application. For example, magnetic and electric fields incorporated at advantageous angles to one another, for instance, at right angles (90° or $\pi/2$ rad) can help to accelerate, decelerate, or move the charged medium along a helical, rotational, or curved path, this process is broadly similar to that of an electric motor. The opposite process, broadly similar to an electric generator, can also be fruitfully employed.

From a Geometric standpoint, the invention is constructed by projecting one or more 3-dimensional sinusoidal or other waviform or wave-like, and/or spiraling curves, sheet-or-solid-bodies onto a plane and then revolving them around an axis, or by sweeping them along various other closed and non-closed curves, or even by projecting the original 3-dimensional curve or curves onto multiple planes and lofting between them, with or without rotation along the generating curve's own or some other axis or multiple such axes. The invention also encompasses the use of the generating forms, if they are solid bodies or solid-bodies derived from sheet-bodies, for any applicable processes described herein. The major axis of revolution, or the corresponding axis for other construction methods is also typically the axis of rotation when the invention is practically applied, though, in operation, the invention need not be confined to just one axis.

The projected and generating curves may be at any Geometrically and practically viable angle, the surfaces may be as many or few in number as circumstances demand, the various curves may be in or out of phase, or in any other relationship to one another, and the whole arrangement can incorporate mechanisms or apparatus for the re-circulation of charged flow, either close to the axis of rotation, towards the periphery, or elsewhere.

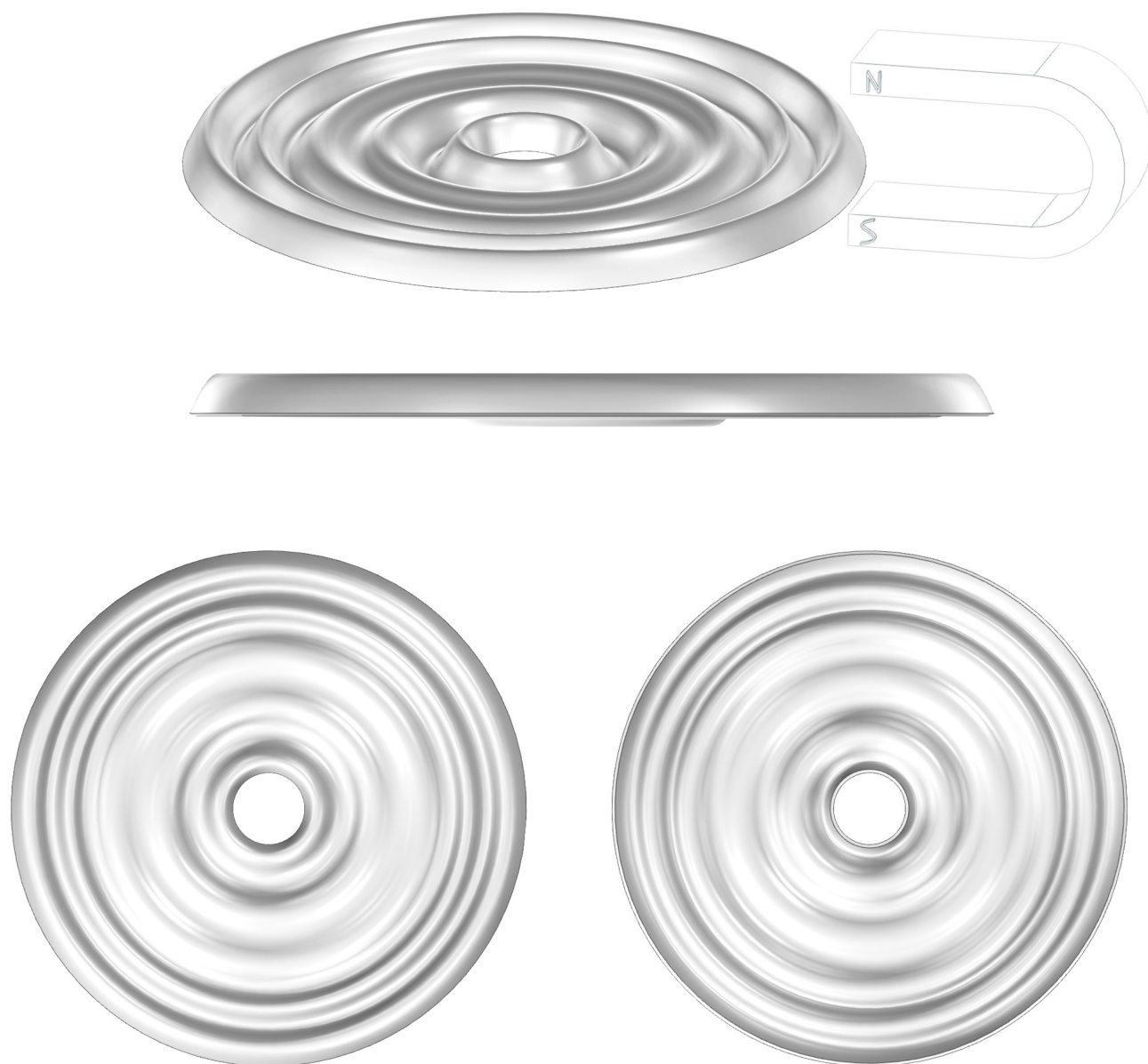
The Geometric construction is so designed that it reflects, compliments, embodies, enhances, supports, guides, harmonizes with, or otherwise lends to the Natural flow Geometries of the fluid and the field arrangement involved, particularly by means of the Golden Ratio, and especially by means of a sucking, grinding, twisting, shearing, infolding, unfolding, folding, inwinding, outwinnding, set of motions, encompassing any advantageous combination thereof. It may incorporate constrictions or fluidic inlets designed to facilitate the Venturi effect, it may be constructed with the Magnus effect, the Coriolis effect, the Coandă effect, various pinch effects, convective effects, drift effects, gradient effects, fluidic and plasma instabilities, and/or various combinations thereof, as well as related effects taken into account in the design process.

The invention may also incorporate various annular, partly annular, annulus-like or quasi-annulus-like surfaces, either close to the axis of rotation, towards the periphery, or elsewhere.

The invention can and should incorporate materials or combinations of materials, which in virtue of their properties (magnetic, electric, thermoelectric, thermomagnetic, galvanic, and so on), enhance or support the salient processes central to the specific application.

The present invention may be of any size and designed and used to facilitate any advantageous application, e.g., power production, propulsion, fluid conveyance, desalination, chemical syntheses (including in the realms of food and beverage chemistry), and the production or refinement of fertilizers or other agricultural amendments.

Here is a depiction of one possible embodiment of the invention:



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