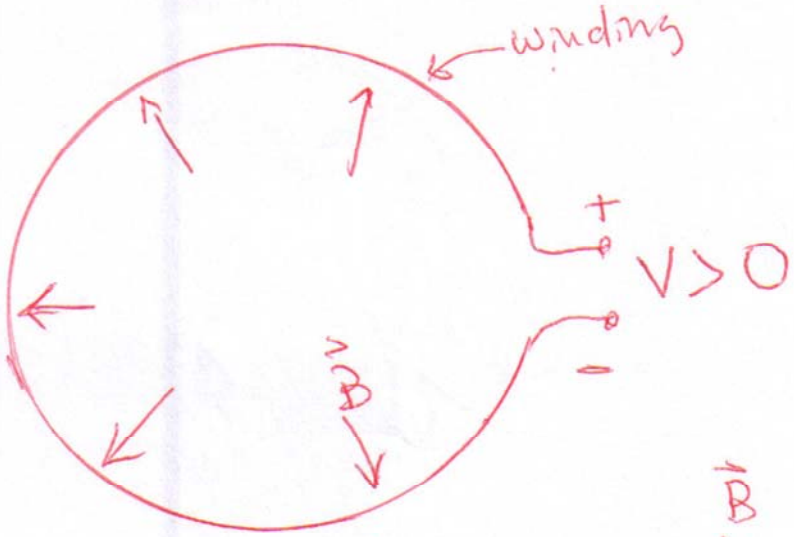


FIG. 1

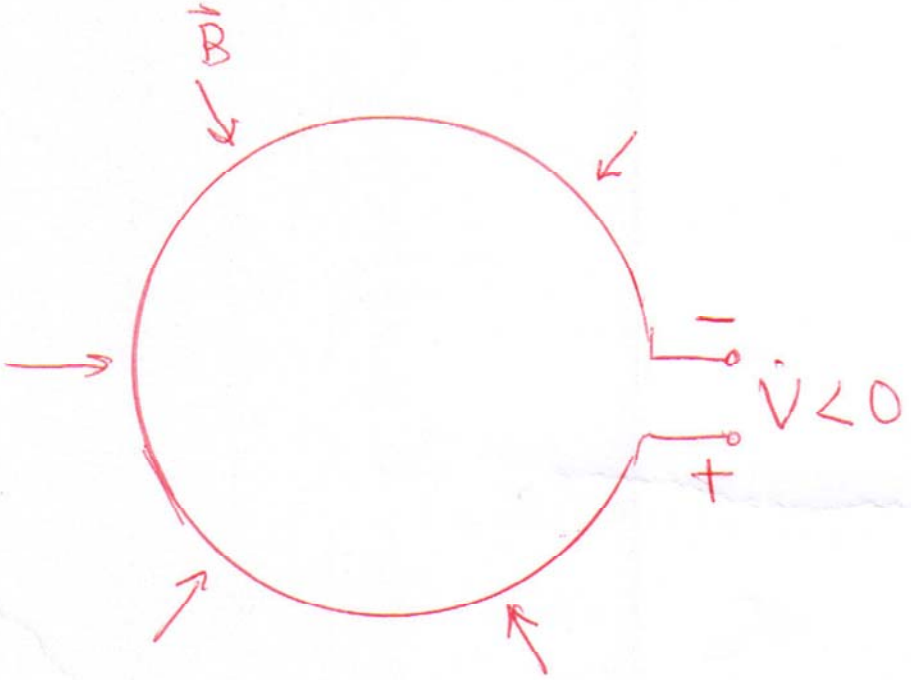


FIG. 2

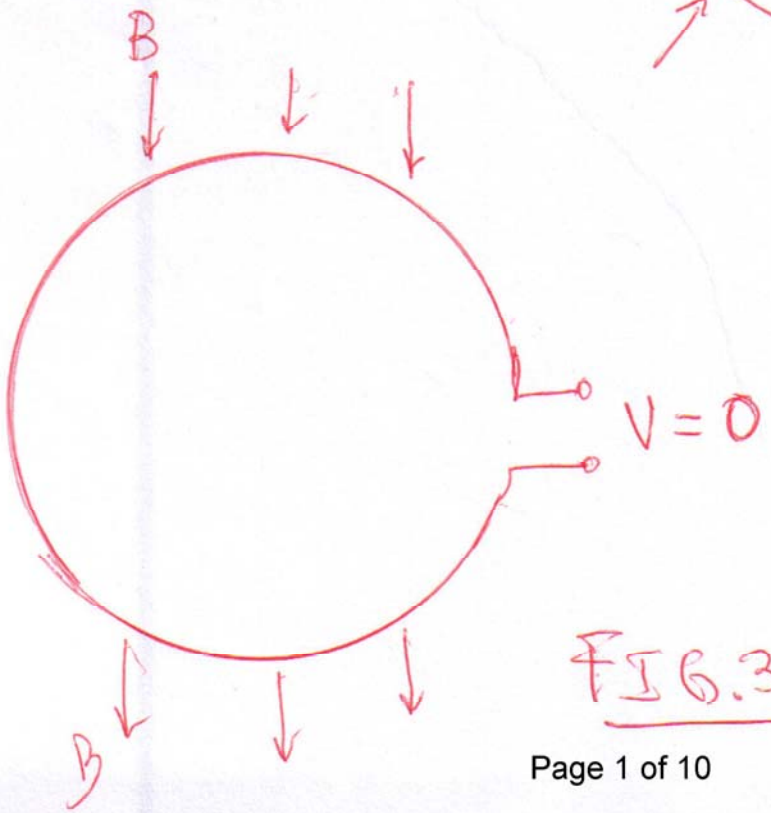


FIG. 3

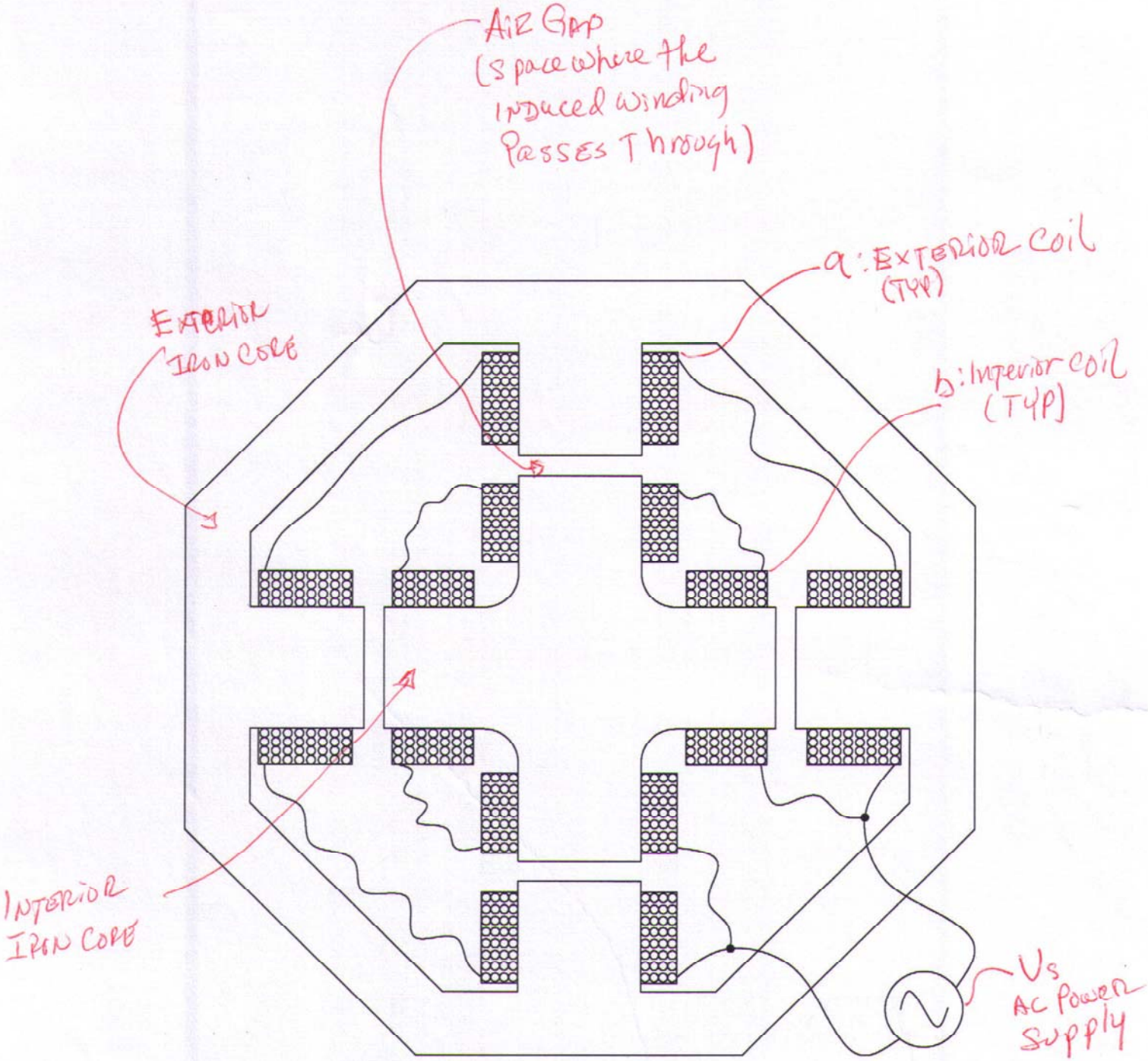

AIR GAP
(Space where the
INDUCED winding
Passes Through)
a: EXTERIOR Coil
(TYP)
EXTERIOR
IRON CORE
b: Interior coil
(TYP)
INTERIOR
IRON CORE
Vs
AC Power
Supply

FIG. 4

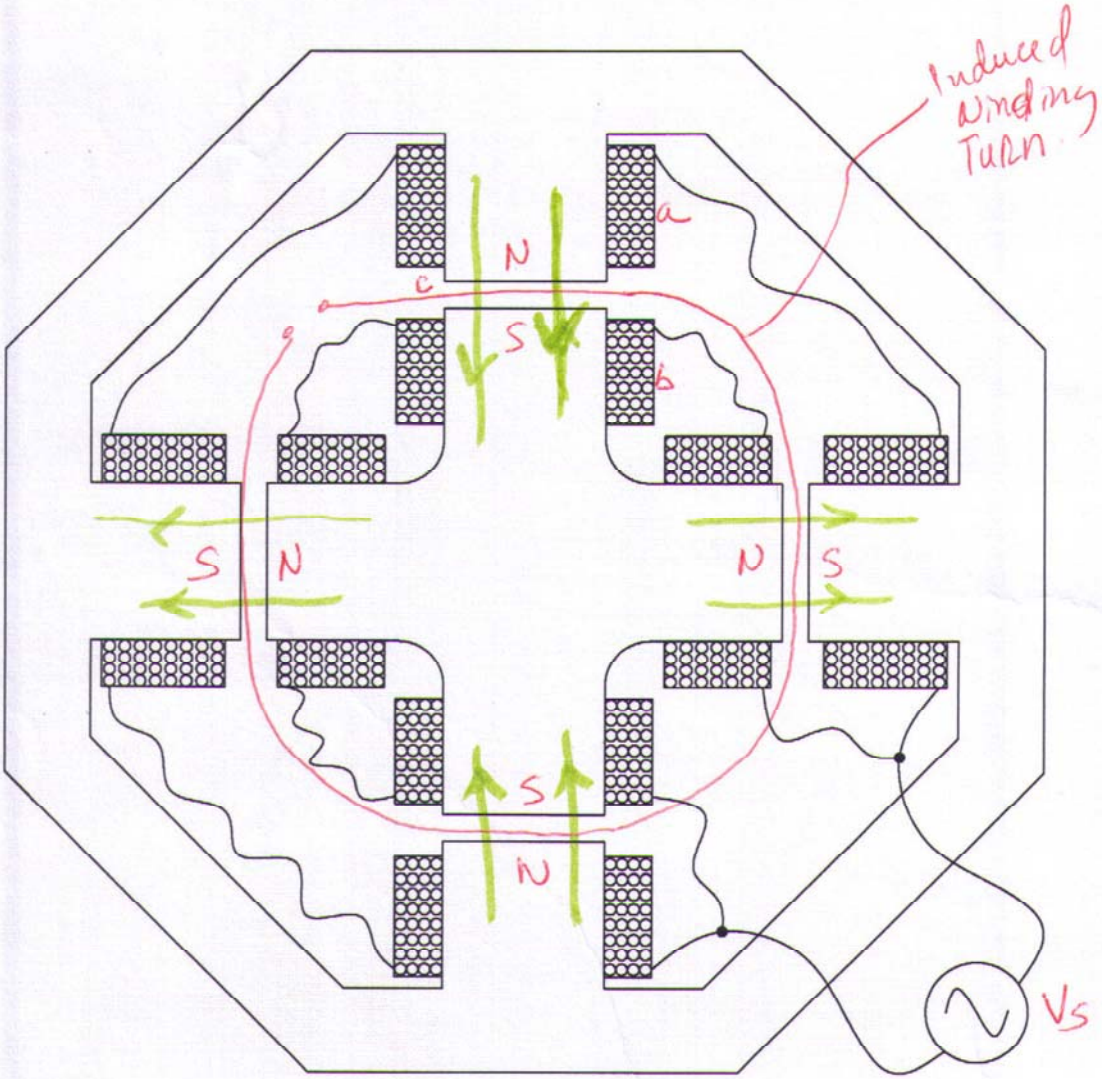


Fig.5

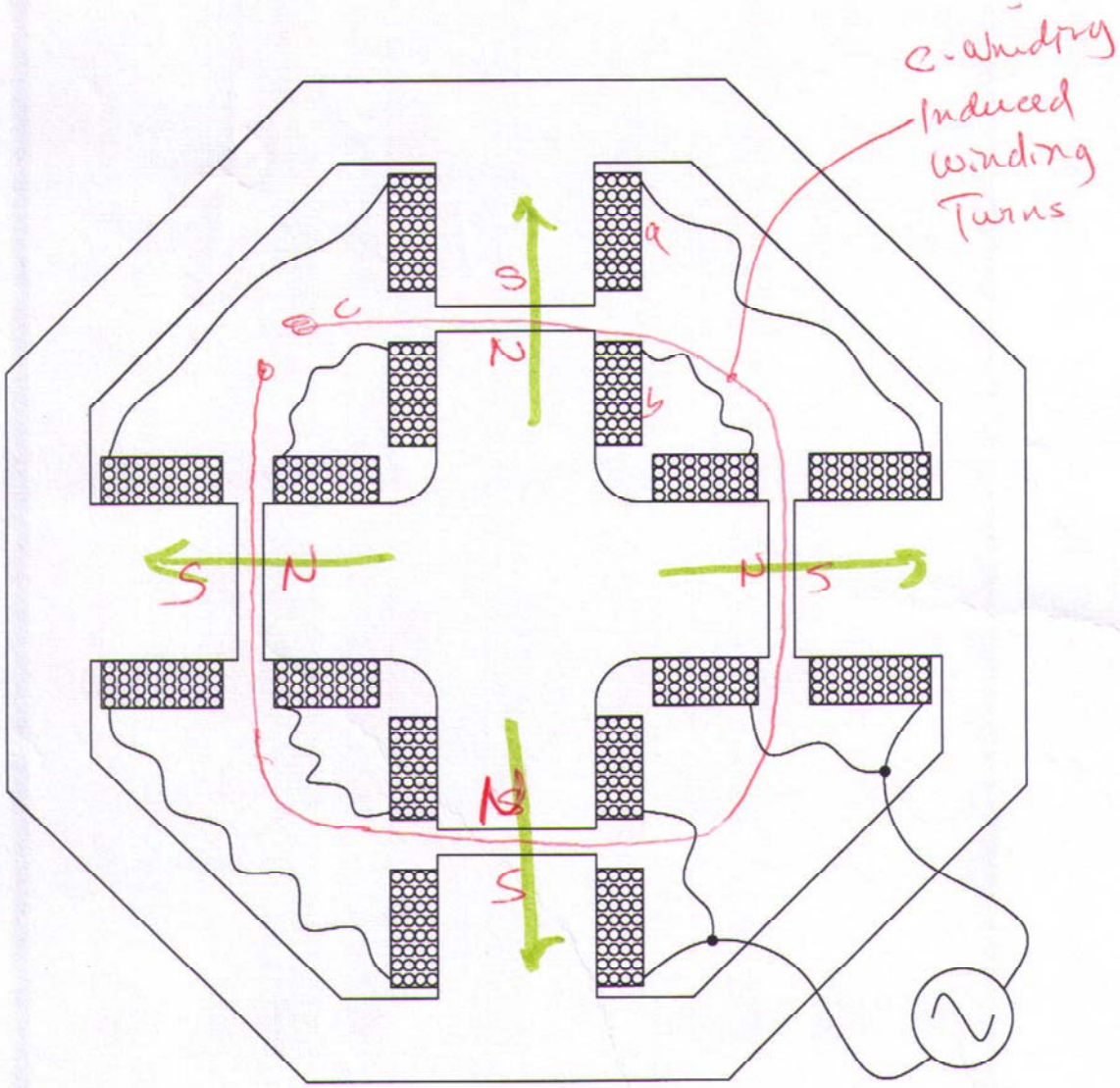
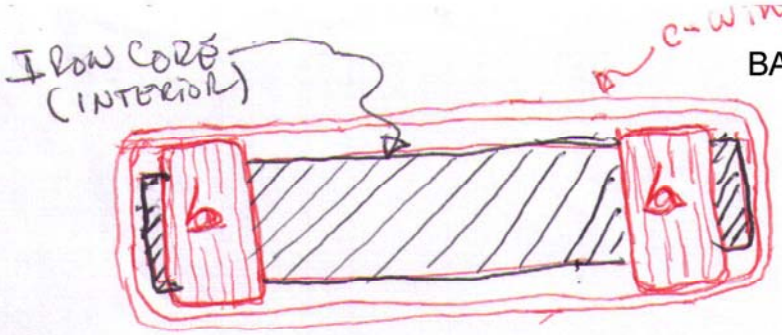


FIG. 6



SECTION I-I

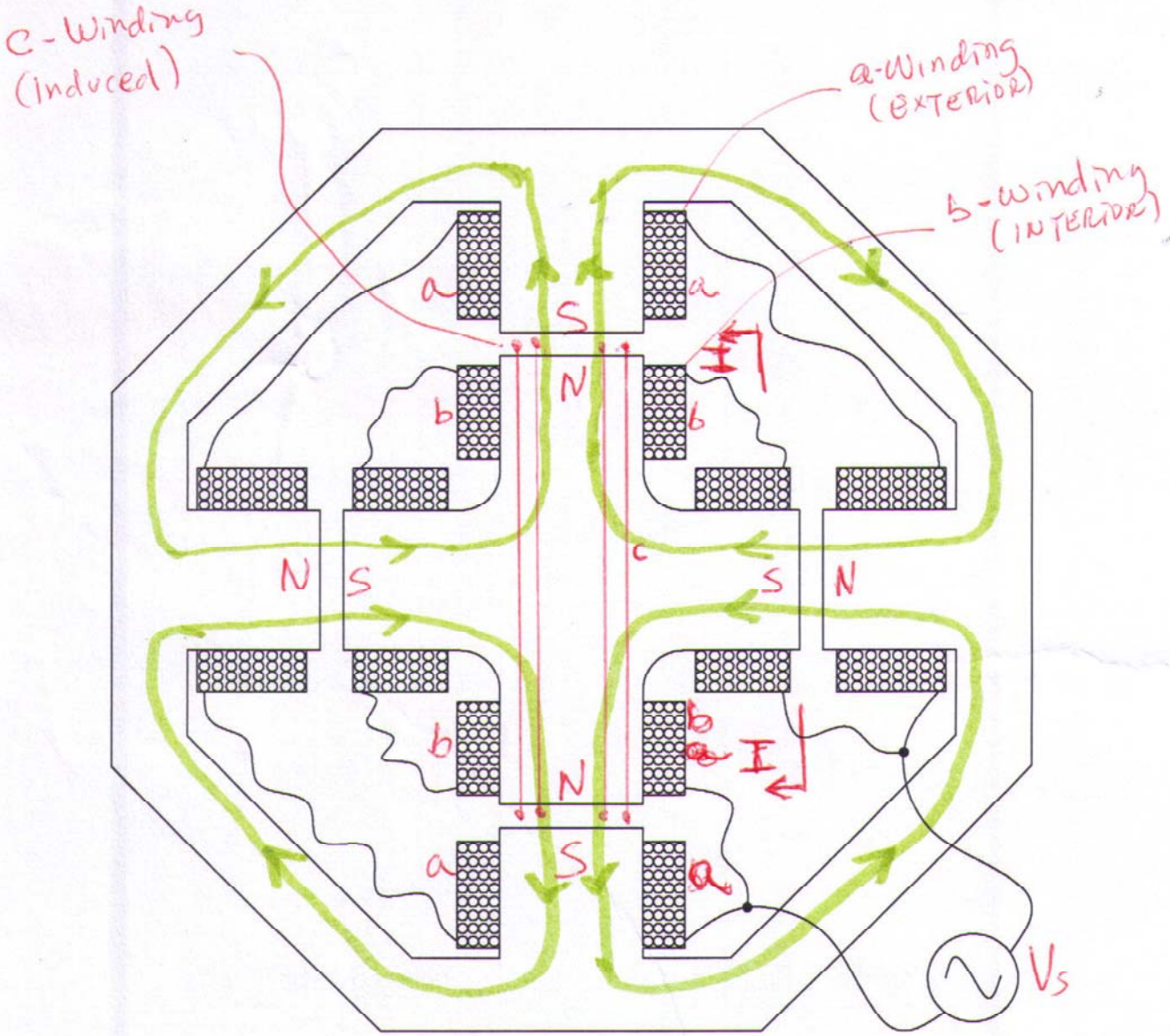


FIG. 7

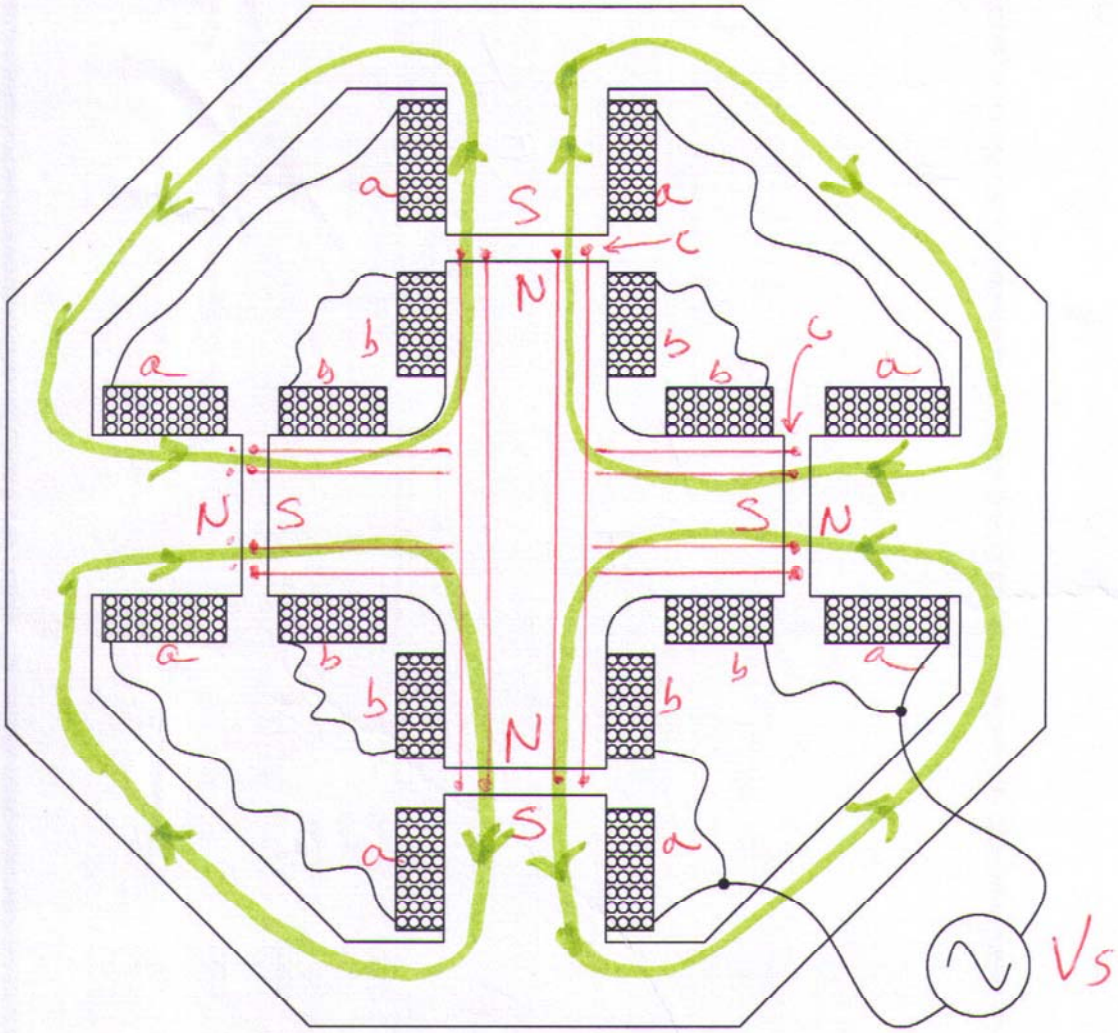


FIG. 8

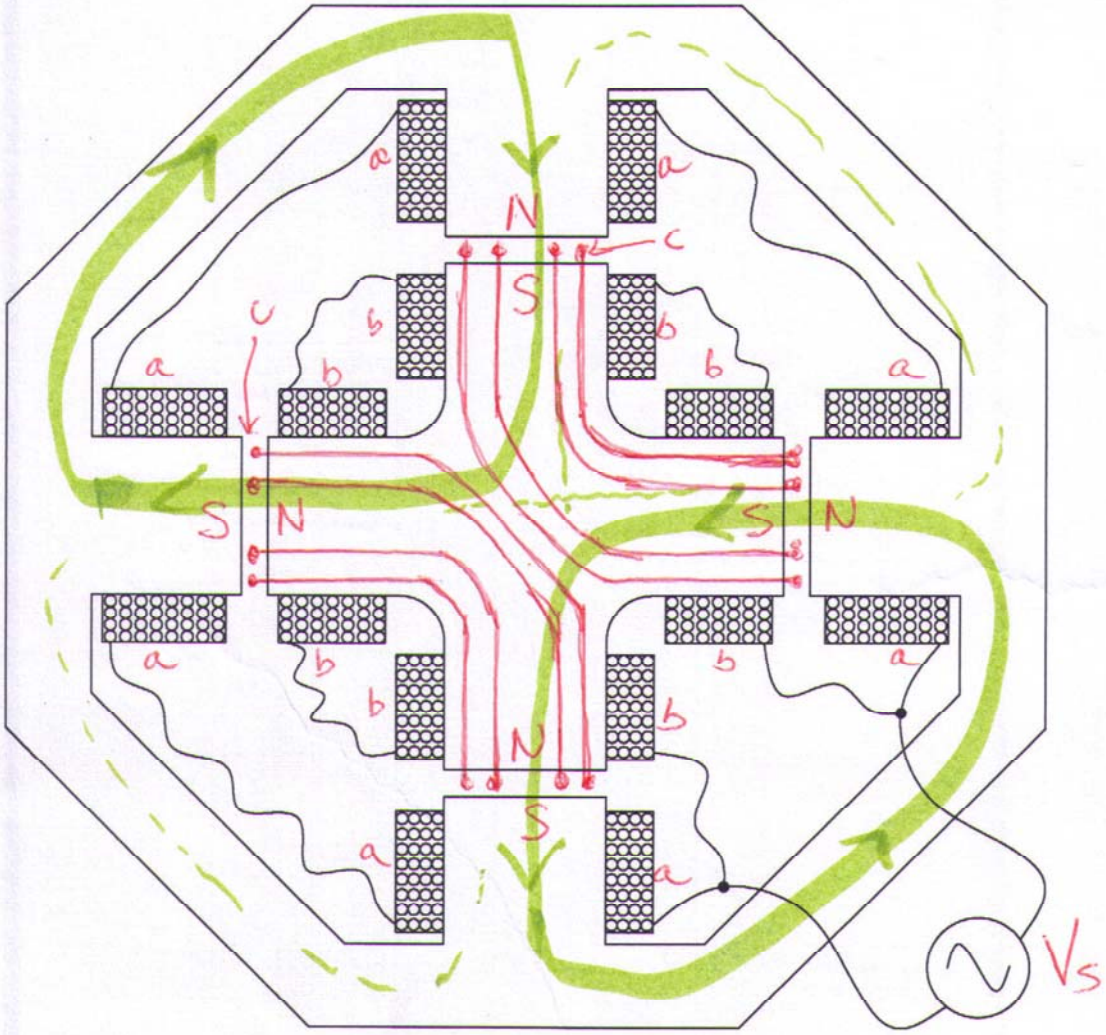


FIG. 9

Lenz's law is a universal law of nature and there is no escape from it. Because of the standardization in the construction of today's electric machines, the effect of this law is to transmit any disturbances generated by a connected load back to the source. Lenz's law is the main justification for stating that electrical machines cannot operate with efficiencies greater than 100%. The standardization in the construction of electric machines (transformers, generators, and motors) is enforced by organizations such as ANSI/IEEE, NEMA, IEC, etc.

However, it is a fact that electric machines can be built with higher output power than the input. The starting character of the over unity transformers or Motionless Electrical Generators (MEG) is the Spanish engineer Don Clemente Figuera. The work of Mr. Figuera is completely different than the work performed by Nikolas Tesla. Clemente Figuera experimented with coils having low frequencies and low voltages. The low frequency application allowed Mr. Figuera to use iron cores for his devices. On the other hand, Nikolas Tesla experimented with coils having high frequencies and high voltages. Because of the high frequency application, Tesla's coils used non-magnetic cores.

Figuera and Tesla have two different technologies for the manifestation of over unity. Figuera teaches the techniques for minimizing the effects of the Lenz's law to a point where passive electric machines become electric generators. Tesla, on the other hand, squeezed energy out of copper wires in such a high quantities that it can be compared to a cold fusion reaction. For example, Tesla estimated the power of his wireless transmitter to be approximately 100,000,000 volts at 1,000 Amps. THAT IS A LOT OF POWER!!!

Turning our attention back to the Figuera's patents, it can be seen an incremental improvement. For instance, the Spanish patent #30376 **from 1902 discloses a generator with fixed rotor and stator and a moving induced winding moving through the air gaps. Spanish** patent #30378 **from 1902 discloses a true MEG. Clemente discovered that electrical power can be generated without moving parts and with efficiencies greater than 100%. The 1902 patents were sold to a consortium of** banks**. And finally, the Spanish** patent #44267 **from 1908 shows an ingenious method for minimizing the effects of the Lenz's law.**

I disagree with the concept that the 1902 device requires two shifted phases or a rotating magnetic field. The 1902 patents should only require a single phase input AC voltage while the 1908 patent requires two DC voltage pulses shifted 90 electrical degrees.

For a magnetic filed to induce a voltage in a coil, the net magnetic field cutting the turns of the coils shall be nonzero. For example, FIG. 1 **shows five magnetic force lines pointing in a direction leaving (exiting) the winding. The net magnetic field cutting the winding turn is equal to five magnetic lines of force. Because the net magnetic field cutting the winding is nonzero, there is a nonzero net voltage induced in the winding. Assume that the voltage polarity is positive when the direction of the magnetic field points outward.** FIG. 2**shows five magnetic force lines pointing in a direction entering the winding. The net magnetic field cutting the winding turn is equal to five magnetic force lines. Because the net magnetic field cutting the winding is nonzero, there is a nonzero net negative voltage induced in the winding. If the numbers of magnetic lines entering and leaving the winding are equal, then the net**

induced voltage is zero. This condition is shown in FIG. 3**.**
As described in my previous paper where I explained the concept of operation for Figuera's 1908 patent, the polarity of the induced voltage is such that it will generate a current in which the associated magnetic field will always oppose the magnetic field that induced the voltage in the first place. The latter condition is also known as Lenz's law.
FIG. 4 **is my version of the configurations of the Exterior and Interior windings (a, b) of the 1902 patent. It is important to note that the 1902 patents do not meet today's patent application requirement for disclosing the idea with enough details as to allow the device replication by a person with skill in the art. The patents of 1902 are not easily replicated because of the absence of important details. Great amount of detective work is required in order to replicate the device. Therefore, the device in** FIG. 4 **illustrates details of the interconnection of the windings not disclose in the 1902 patents.**
The next task is the most important, to determine the layout configuration of the induced winding. The lack of details for the location of the turns of the induced winding is a major flaw in the 1902 patents. Nevertheless, an analysis - similar to the one used for describing the operation of the device shown in the 1908 patent – can be performed to figure out the riddle with relative ease.
Let us try first the induced winding configuration with the coil plane parallel to the plane of the page. FIG. 5 **shows such a configuration. If we assume the relative polarity of the Exterior and Interior windings (a, b) is as shown in** FIG. 5**, then it represents the condition when the magnetic polarity of the Interior windings (b) are not equal forcing the magnetic field B to enter and exit the Induced winding turns (c) similar to the condition described above for FIG. 3. Because the magnetic field entering the Induced windings (c) also leaves, the net induced voltage is zero. The null voltage condition is true for any polarity combination except when all Interior windings (b) have the same relative magnetic polarity.**
FIG. 6 **illustrates the condition in which the relative magnetic polarity of the Interior (or Exterior) windings is the same.** FIG. 6 **shows the condition already described above for FIG. 1, and therefore, there should be a net induced voltage in the Induced winding (c). However, because the magnetic lines must be closed paths, the magnetic field escapes in a direction perpendicular to the plane of the page resulting in an increased reluctance due to larger air gaps along the magnetic path formed outside of the device's dimensions. This can be considered an inefficient magnetic design.**
FIG. 7 **illustrates what can be a possible working configuration of the Induced windings (c) as originally intended by Clemente Figuera. The Exterior and Interior windings (a, b) must be connected to provide a relative magnetic polarity as shown in** FIG. 7**. As you can see form the figure, the Induced winding (c) is cut by a magnetic field only exiting the Induced winding, and as previously explained in FIG. 1, there will be a net voltage induced in the c-winding – Induced winding. If a load is connected to the c-winding, a load current would be established generating an induced magnetic field around the c-winding. BECAUSE THE INTERIOR WINDINGS (b) ARE TOTALLY ENCLOSED BY THE INDUCED WIDING (c) THE INDUCED MAGNETIC FIELD WILL ENTER AND LEAVE THE TURNS**

OF THE INTERIOR WINDING (b) INDUCING A ZERO NET VOLTAGE, WHICH RESULTS IN A CANCELLATION OF THE EFFECTS OF THE LENZ'S LAW. IN OTHER WORDS, THE LOAD CURRENT FLOWING IN THE c-WINDING IS NOT REFLECTED BACK TO THE b-WINDING. It should also be remembered that the Lenz's law always occurs, that is, the induced magnetic field has a polarity that opposes the polarity of the inducing magnetic field originating at the Interior winding (b). However, the symmetry of the quadratic configuration of the Interior windings (b) and the Induced winding (c) causes a balancing effect on the induced magnetic field that enters and leaves the turns of the Interior winding (b). The direction of the induced magnetic field generated by the c-winding shown in section I-I **is perpendicular to the plane of the page, that is, it flows toward or away from the viewer.**

FIG. 8 **shows an additional set of c-windings along the horizontal axis for increased power. Note that the magnetic field lines, shown with green lines, enter in the horizontal c-winding and leave the vertical c-winding.**

FIG. 9 **shows another possible embodiment of the 1902 device. If symmetry is maintained, the balance of the magnetic paths should produce the magnetic flow drawn with continuous green lines. On the contrary, if the magnetic paths become unbalanced, the magnetic flow can also branch out as shown in dashed green lines. Can you see any similarities between Figuera's work and Thanes'? Does Figuera's device make obvious Thanes' device?**