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Review Article

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Kertsopoulos Innovation: The Three Multi-plane Polarities and the Three Interactions and Schematic Representations in the Sense of the General Cause of the Dynamic Difference

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Abstract

As it is known: in the state of the art, the like and the unlike polarity between two magnets remains independent of the distance between them. According to the invention: "Magnetic System of Three Interactions", International office of patents WIPO-PCT, bearing the No WO/2013/136097of the inventor Georgios K. Kertsopoulos, the like and the unlike polarity between two magnetic constructions depends on the distance between them [1], [2], [3], [4], [5], [6], [7], [8], [9], [10]. The know-how of the invention makes it possible for interacting magnetic constructions to possess and perform interchangeable more than 96 polarities and interactions. Polarities and magnetic fields can in multiple ways interchange, depending on the varying distance between two interacting confronted magnetic constructions, offering many new variable design capabilities. For the first time, new types of poles are created, for example: simultaneous like-unlike poles or simultaneous unlike-like poles are created, causing stable or unstable balance as an interaction; also, for the first time in magnetism, new types of magnetic fields are formed never before observed, for example: remote fields of very strong attraction, without however, the contact of the magnetic constructions. The magnetic devices that perform these multiple interactions are fully patented internationally, published in a book in English, by the inventor a book in English, by the inventor [11]. The new scientific laws and principles, revealed through these experiments enrich the very basics, the foundation of magnetism, since many new types of polarities and interactions are introduced and are made possible for the first time in science and technology. In figure 1 of the article we observe the division and determination of the empty air space, between the magnetic constructions, at three distances and two boundaries which apply both for the like and the unlike front poles and in figure 2 we observe the three typical spatial distances, the three multi-plane polarities and the three interactions with properties and with spatial boundaries and interactions based on the bundles of the dynamic lines between the two magnetic constructions, on the guide, when the poles of the front poles of the arrangements are initially like.

Furthermore, in figure 7 we observe a schematic representation of the three different fields (175), (177) and (178) between the above-mentioned magnetic arrangements of the constructions of the invention, with initially like front poles, in the sense of the general cause of the dynamic difference. This article is in continuation of the following published article that introduces the reader to the invention's technology: Georgios K. Kertsopoulos (2018) Innovation article: 36 over passed restrictions of magnetism achieved by the 96 multiple magnetic polarities-interactions performed by the Kertsopoulos world patented invention vs. the known two. Advances in Nanoscience and nanotechnology [12].
https://www.opastonline.com/wp-content/uploads/2018/12/36-over-passed-restrictions-of-magnetism-achieved-by-the-96-multiple-magnetic-polarities-interactions-performed-by-the-kertsopoulos-world-ann-18.pdf?fbclid=IwAR1jYPFME5mhX-2FLbKKTPAdu0YMe3FqHtoUdoRoeao8mKIp1GRuWeovEaA

Keywords: Magnetic interactions, magnetism restrictions, multiple interactions, magnetism, polarities, kertsopoulos invention, cause of dynamic difference.

Introduction

Figure 1 – The division and determination of the empty air space, between the magnetic construction, at three distances and two boundaries which apply both for the like and the unlike front poles and figure 2 – the three typical spatial distances, the three multi-plane polarities and the three interactions with properties and with spatial boundaries and interactions based on the bundles of the dynamic lines between the two magnetic constructions, on the guide, when

the poles of the front poles of the arrangements are initially like.

Figure 1 shows a typical plan view of the guide and two magnetic constructions, where the empty air space is divided and defined, between the magnetic constructions, at three distances and two boundaries. Depending on the distance dividing the magnetic constructions, the polarity of the apparatuses and the interactions occurring between them, they change accordingly. By dividing and defining the empty air space between the magnetic constructions at three distances: 1) nearer (45), (2) middle (46) and 3) further (47) and by defining the boundaries of the middle distance (46) to the nearer distance (45) as middle-nearer boundary (48) and to the further distance (47) to the middle-further boundary (49), the description of the interactions follows beginning from the so-called middle-further interaction, figure 2 (53), which includes the middle distance, figure 1 (46) and further distance (47), and as total this distance is designated as middle-further distance (50) and extends to infinity (26). Subsequently, the nearer-middle interaction, figure 2 (56) that comprises the nearer distance, figure 1 (45) and the middle distance (46) and as total this distance is designated as nearer-middle distance (51). Finally, the middle interaction, figure 2 (75), is described, which includes the middle distance itself, figure 1 (46), which is noted between the middle-nearer (48) and middle-further boundary (49). In order to make the said distances in figure 1 and 2 better understood, the magnetic construction (12A) is fixed and the magnetic construction (12B) is movable. It is apparent that on the application of the guide, the magnetic arrangements (10A, 10B), by means of the magnetic constructions (12A, 12B) respectively, are both movable and if desired either one or both of them may be fixed-immobilized so that the experiments and measurements may be executed in various preferred ways. (All other numbers in the figures, not accounted here like 76A, 83A etc. are different symmetries).

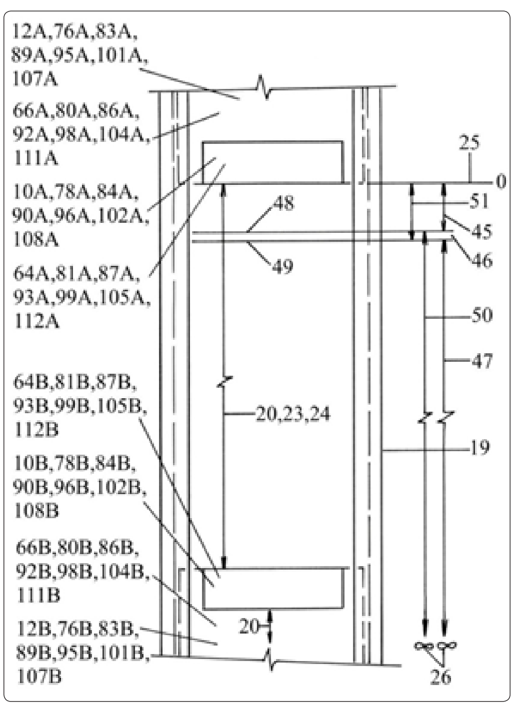

Figure 1: Typical plan view of the guide and two magnetic constructions with a division and determination of the free air space between the three distances and the two boundaries

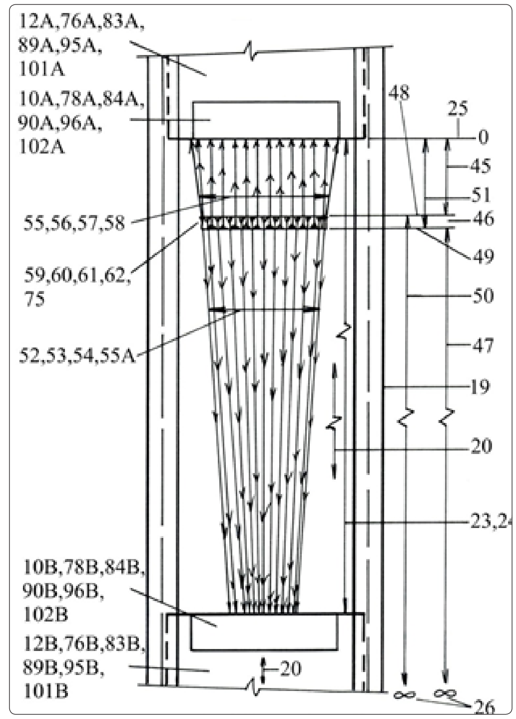

Figure 2: Three typical spatial distances, three multi-plane polarities and three interactions between two magnetic constructions with like front poles

Thus, it is noted that the distances and the interactions, as mentioned above, are typical for all the comprehensive constructional types of the invention that employ these and not only those described in the above figures and the above-mentioned arrangements.

Each arrangement (10A, 10B), on each magnetic construction (12A, 12B), applying the above-mentioned features, has the upright standing dipoles (13) arranged in one row-array only, i.e. the front faces (15) and the rear faces (32) of the poles are aligned between them, i.e. see figures 3 and 4 and 5 and 6, also. Depending on the distance, figure 1(24) between the interacting magnetic arrangements (10A, 10B), both the front (15) and the rear polarity (32) of each dipole become functionally beneficial.

Each magnetic arrangement (10A, 10B) has one row-array of dipoles (13) but possesses two levels of beneficial and functional polar property, i.e. a beneficial front bundle of dynamic lines, figures 3 and 4 (3,1) and figures 5 and 6 (3,2) and an equally beneficial front/rear bundle of dynamic lines having an opposite polarity, in the same figures 3 and 4 (4, 2) and in figures 5 and 6 (4, 1), respectively. Thus, when two matched magnetic constructions that fulfil the above requirements, such as (12A, 12B), are moved one against the other on the guide (19) by the intervention of the operator, three interactions occur, due to the polarity exchanges in the empty air space (23), according to the distance (24), which separates the magnetic arrangements (10A, 10B) present on the magnetic constructions (12A, 12B), respectively and are the following:

A) When the magnetic constructions, figure 1 (12A, 12B), approach one another on the guide (19), from a non-interaction distance, which theoretically is infinity (26), the first nearer distance (24) created between the interacting opposing dynamic lines is the lateral and diagonal distance relation found between the front poles, figure 3 and 4 and 5 and 6, (15, 3) of each magnetic arrangement (10A, 10B).

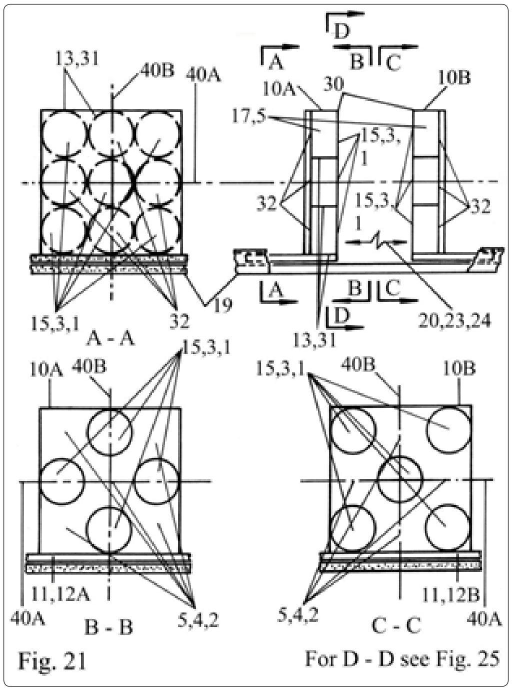

Figure 3: First comprehensive constructional type of arrangements (FCCTOA) with north like front poles, elevation and three sections

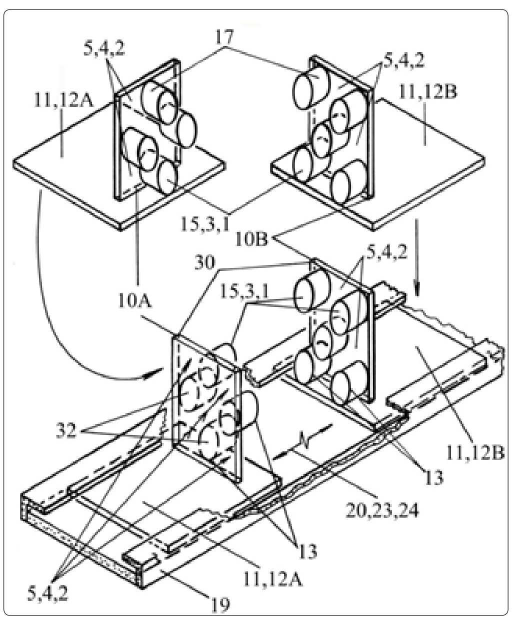

Figure 4: First CCTOA with north like front poles, 3 views in perspective

Between these, and as long as this relation of sideways-lateral and diagonal distance is the nearer for the interaction of the dynamic lines (3), and as the constructions approach each other, the front bundles of dynamic lines, figures 3 and 4 (3, 1) and figures 5 and 6 (3, 2), which the front poles (15) of the arrangements (10A, 10B) have, continue to interact, and this interaction is designated as mutual-double front-front interaction, figure 2 (52) of the middle-further distance, figure 1 and 2 (50).

This becomes typical for all the comprehensive constructional types of arrangements as middle-further interaction, figure 2 (53), of the mutual-double front-front interaction (52), since the opposing front poles (15) are like (55A) with repulsive (54) interaction. Its maximum strength starts from the middle-nearer boundary (48) and extinguishes through the further distance (47) to infinity (26) and this is repulsive (54), since the poles are like (55A) and this interaction does not occur at all (53, 54) from the middle-nearer boundary (48) to the whole of the nearer distance (45).

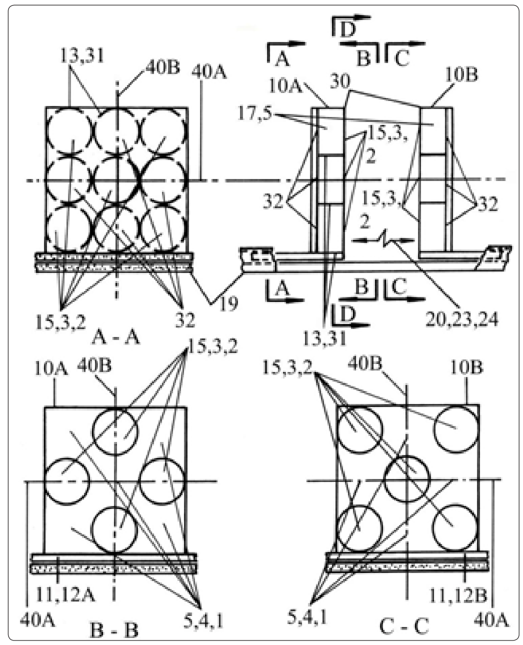

Figure 5: First CCTOA with south like front poles, elevation and 3 sections

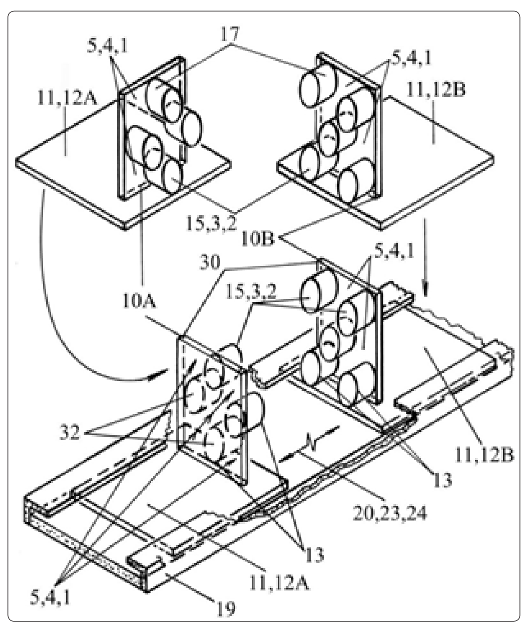

Figure 6: First CCTOA with south like front poles, 3 views in perspective

B) When, however, the same magnetic constructions, figure 1 (12A, 12B) are in the nearer-middle distance, figures 1, 2 (51), their distance ranging from their physical contact to a small distance (24) apart up to the middle-further boundary (49), the nearer distance created between the interacting opposing dynamic lines is the distance between the front poles, figure 3 and 4 and 5 and 6 (15, 3), of each magnetic arrangement (10A, 10B) and of the opposing front/rear emission bundles of dynamic lines, figure 3 and 4 (4, 2) and 5 and 6 (4, 1), which are identical to the rear poles (32) of the opposite arrangement. Thus, the front bundles of dynamic lines, figures 3 and 4 (3, 1) and 5 and 6 (3, 2), interact with each opposing front/rear emission bundle of dynamic lines, figures 3 and 4 (4, 2) and 5 and 6 (4, 1), of the loop of the opposing magnetic construction which possesses the property of each rear pole (32), and this interaction is designated as mutual-double front-front/rear interaction, figure 2 (55), of the nearer-middle distance (51). This will always be of opposite interaction from the mutual-double front-front interaction (52) of the middle-further distance (50), of the same constructions (12A, 12B) that interact. Its maximum strength starts at the zero distance (25) of the nearer distance of physical contact, figures 1 and 2 (45) of the magnetic construction (12A, 12B) and its extinguishing stops abruptly at the middle-further boundary (49). This is typical for all the comprehensive constructional types of arrangements as nearer-middle interaction (56) of the mutual-double front-front/rear interaction (55), since the poles are unlike (57) with attractive interaction (58) and this interaction is absent from the middle-further boundary (49) until the whole further distance (47) extending to infinity (26), i.e. wherein the above-mentioned repulsive (54), mutual-double front-front interaction (52) of the middle-further distance (50) applies uniquely.

C) When in two confronted magnetic constructions, figure 1 (12A, 12B), the two above-mentioned effects apply, i.e. since the poles are like, figure 2 (55A), in the mutual-double front-front interaction (52) of the middle-further distance (50), causing repulsive interaction (54) of the magnetic constructions, then the poles of the constructions become unlike (57) in the mutual-double front-front/rear interaction (55) of the nearer-middle distance (51), causing attractive interaction (58) of the magnetic constructions in the middle distance (46), these two different and opposite interactions coexist and are equivalent, where exactly the poles are like and unlike (59) simultaneously and simultaneous repulsive and attractive (60) equivalent interaction (62) is generated, causing an unstable balance (61) of the magnetic constructions, keeping them in full immobility thereof and this interaction is designated as unstable balance (61), due to the particularly small distance range, figure 1 (46), on which the effect is observed.. Furthermore, if the magnetic constructions are slightly displaced from the position of unstable balance, figure 2 (61), i.e. if they penetrate to the nearer distance (45) between them, the attractive interaction (58) is activated, with subsequent contact thereof, or if they are brought to the further region (47), the repulsive interaction (54) is activated. This is typical for all the comprehensive constructional types of arrangements as middle interaction (75) of the unstable balance (61), since the poles are like and unlike (59), simultaneously and at the same time a simultaneous repulsive and attractive equivalent interaction (60) is generated.

The repulsive interaction (54) of the middle-further distance (50) with the attractive interaction (58) of the nearer-middle distance (51) are equivalent to the middle interaction (75) of the middle distance (46) of the unstable balance (61). The repulsive (54) middle-further interaction (53) vanishes completely from the middle-nearer boundary (48) until all the nearer distance (45), i.e. to the physical contact of the magnetic constructions and the attractive (58) nearer-middle interaction (56) vanishes completely from the middle-further boundary (49) until the whole further distance (47).

By applying the above, as the operator moves the two confronted magnetic constructions, figure 1 (12A, 12B), with the uni-directional, forward-backwards (20) confronted always sliding possibility, they possess to move in the guide (19), the following three magnetic experimental phenomena and data are obtained:

1) When the operator brings manually from a non-interaction distance anyone of the two magnetic constructions (12A, 12B) near the other, i.e. from the further distance, figures 1 and 2 (47), to the middle-nearer boundary (48), the opposite magnetic construction, if left free, will exhibit repulsive, figure 2 (54), interaction, and move backwards. If the two magnetic constructions are held and the operator brings them slowly closer one-another by hand, he feels the repulsive (54) gradually increasing force, its maximum value being at the middle-nearer boundary, figure 1 and 2 (48).

2) Contrary to the only present observable phenomenon in magnetism, which determines and defines the continuous increase of this repulsive force up to the zero distance between the magnetic constructions, figure 1 and 2 (25), as soon as the force applied by hand, which brings the magnetic constructions closer, exceeds the marginal repulsive force, figure 2 (54), its maximum being at the middle-nearer boundary, figure 1 and 2 (48), the magnetic constructions present strong attraction (58) and are joined by attractive force.

3) If the operator holds the two magnetic constructions, figure 1 (12A, 12B) and brings them to the middle distance, figure 1 and 2 (46), in order to equilibrate the attractive, figure 2 (58) and the repulsive (54) interactions between them, then at the middle distance (46) the magnetic constructions will be completely fixed-immobilized, since the attractive and repulsive forces there are equivalent, causing the interaction designated as unstable balance (61). Any small shift, even of the one magnetic construction from the position of the middle distance (46), will cause an attraction and subsequent union thereof if displaced to the nearer distance (45), or the repulsive (54) separation thereof, if displaced to the further distance (47).

The measurements of the spatial distances, figure 1, and of the interactions, as these are defined in figure 2, will depend on the size of the dipoles used for the execution of the application and on the magnetic force they possess. (See figure 14 below and magnet specifications used here, to produce the following results). The measurements of the distances with the defined materials and elements of the invention are typical, i.e. they apply for the present as well as for the following comprehensive constructional types of arrangements of like front poles, approximately and they range on average as following: the range of the nearer-middle distance, figures 1 and 2 (51), is 7.8 to 8.5 mm. The range of the middle distance (46) is minimal in macroscopic measurement, from 0.1 to 0.4 mm and the range of the middle-further one (50) begins from the middle-nearer boundary (48), the distance of which from the zero distance (25) is estimated from (51) minus (46) and then this (50), having the range from 7.7 to 8.1 mm from the zero distance (25) extending to infinity

(26). Notably, the magnetic constructions begin to repel one another on the guide (19), at an average distance between 31 and 33 mm. In order to bring the magnetic constructions from the distance 31 and 33 mm to the middle-nearer boundary (48), where the repulsive field vanishes abruptly, figure 2 (54, 52), these should be kept by the operator and an external force should be applied thereon so that the magnetic constructions are brought closer. As explained above, as soon as the constructions go past the middle-nearer boundary, figures 1 and 2 (48), entering the nearer distance (45), they are attracted due to the attractive contact interaction, figure 2 (58, 56, 55).

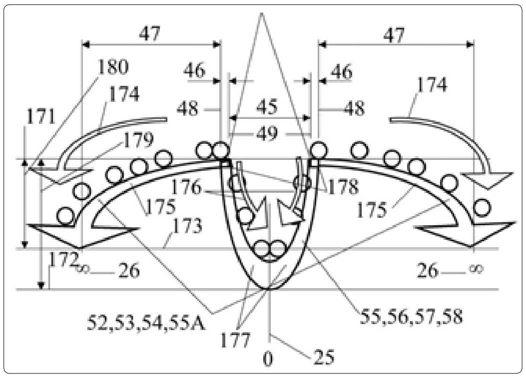

Figure 7: Schematic representation of the three different fields that exist between the magnetic arrangements with initially like front poles with the notion of the general cause of the dynamic difference

Schematic representation of the three different fields (175), (177) and (178) between the above-mentioned magnetic arrangements, with initially like front poles, in the sense of the general cause of the dynamic difference.

Figure 7 shows all the above-mentioned with the schematic representation of the three different fields (175), (177) and (178) existing between the above-mentioned magnetic arrangements, (10A) and (10B), with initially like front poles, as these are generated by symmetric attractive (176) and repulsive (174) forces in the sense of the general cause of dynamic difference governing the interactions of bodies, in comparison to the state of the art which has only one non-symmetric field. Figure 7 shows, apart from the remaining elements already mentioned the high dynamic level (171) creating a dynamic difference (179) with the lower level (172) and at that point there is an attractive field (177) with attractive forces (176). The same high level (171) creates a dynamic difference (180) with the lower level (173) that coincides with infinity (26) and at that point there is the repulsive field (175) with repulsive forces (174). The equivalence of the attractive forces (176) and the repulsive forces (174) at the middle distance (46) creates the field of unstable balance (178), which is of course at the high level (171) without creating a dynamic difference and at that point there is full immobility of the magnetic arrangements, thus the unstable balance of this new constructional field, since even the slight displacement of the arrangements puts the bodies either in the attractive field (177), if displaced to their center of union, of the nearer region (45) or in the repulsive field (175) if displaced to the further distance (47). The above figure 7 applies each time when figure 2 applies, for each subsequent comprehensive constructional type of arrangements of like front poles.

All the above described regards the first comprehensive constructional type of arrangements of like front poles (30), as it is shown and mentioned in figures 3 and 4 and 5 and 6, being consisting of the magnetic constructions (12A) and (12B), which consist of the magnetic arrangements (10A) and (10B), respectively.

Figures 8, 9 and 10, 11 – The first - comprehensive constructional type of arrangements (CCTOA) - with unlike front poles (65).

Figures 8, 9 and 10, 11, show a first - comprehensive constructional type of arrangements (CCTOA) - with unlike front poles where this is similar to the first comprehensive constructional type of arrangements of like front poles, as all the elements of that have already been described in the above description and in all the figures for this type, thus exactly the same and similar apply for the type described below, except that the front poles are unlike between the opposing magnetic constructions. This type of unlike front poles is shown in figures 8, 9 and 10, 11, which are corresponding to the figures 3, 4 and 5, 6, with only difference the unlike front poles between the arrangements.

The first comprehensive constructional type of arrangements of unlike front poles (65) are shown in figures 8, 9 and 10, 11, with the magnetic constructions (66A, 66B), of unlike front poles, wherein in figures 8, 9, the front poles (15) are north (3,1) for the (64A) and south (3,2) for the (64B), and in figures 10, 11 these are south (3,2) for the (64A) and north (3,1) for (64B). The magnetic arrangements (64A, 64B) form the magnetic constructions (66A, 66B). The front/rear bundles of dynamic lines (4) have an opposite polarity than the front bundles of dynamic lines (3), of the same magnetic arrangement, for each case (64A, 64B). Figures 2 and 7, which regard the type of like poles (30), do not apply for this type of unlike poles (65), as regards the interactions, but the figures 12 and 13, which are those that show all the interactions of the type (65), with the figure 1 applying for both cases, i.e. of (30) and (65). In order to make the mentioned distances in figures 1 and 12 better understood, the magnetic construction (66A) is fixed-immobilized and the magnetic construction (66B) is movable.

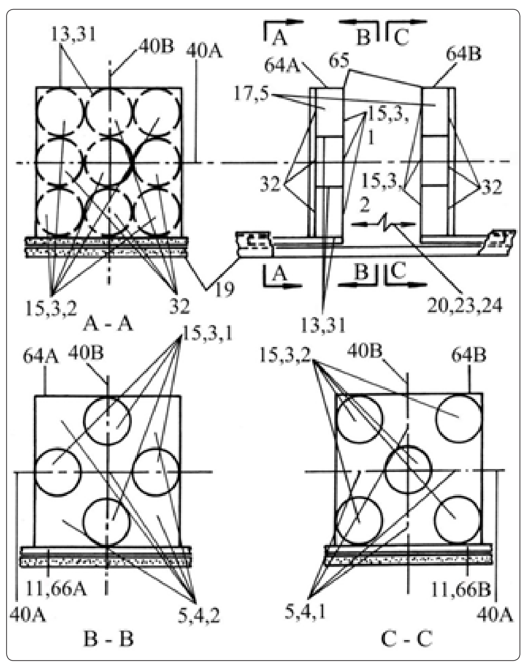

Figure 8: First CCTOA with north-south unlike front poles, elevation and 3 sections.

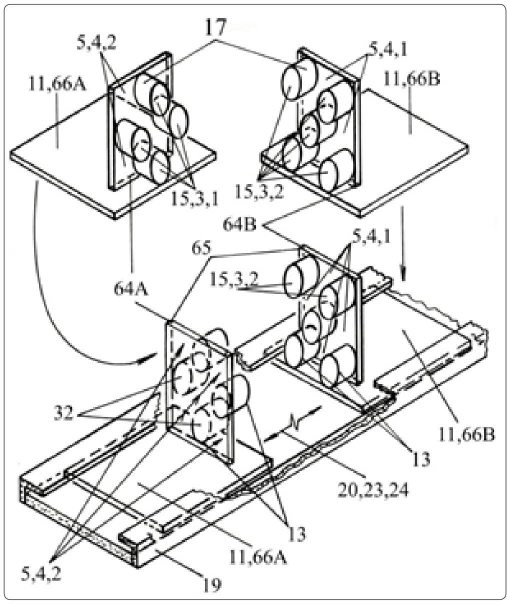

Figure 9: First CCTOA with north-south unlike front poles, 3 views in perspective.

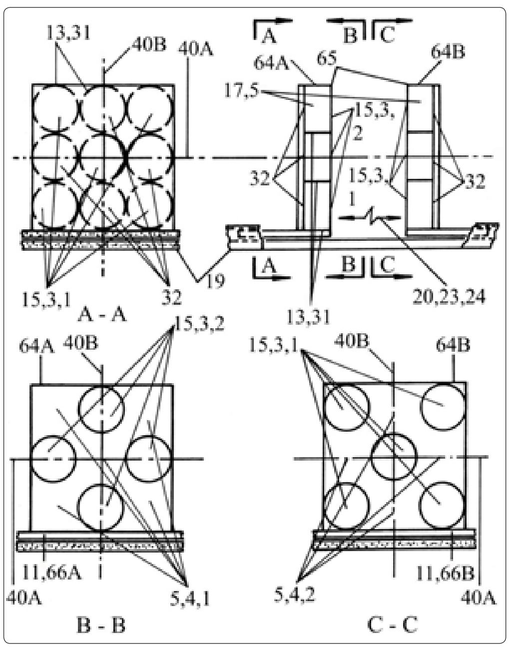

Figure 10: First CCTOA with south-north unlike front poles, elevation and 3 sections.

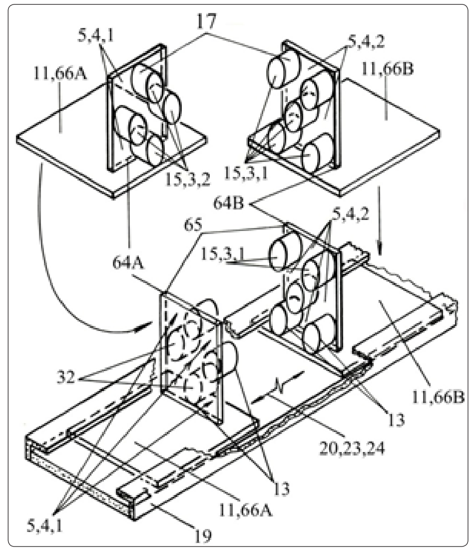

Figure 11: First CCTOA with south-north front poles, 3 views in perspective.

On the application of the guide, the magnetic arrangements (64A, 64B), by means of the magnetic constructions (66A, 66B), respectively, are both movable and if desired either one or both may be immobilized, and the experiments and measurements are executed in various ways. The distances and interactions, as mentioned above, are typical for all the comprehensive constructional types of arrangements that use these and not only for the arrangements mentioned in the figures and the description.

Figure 12 – The three typical spatial distances, the three multi-plane polarities and the three interactions with properties and with spatial boundaries and interactions based on the bundle of the dynamic lines between the two magnetic constructions, on the guide, when the poles of the front poles of the arrangements are initially unlike.

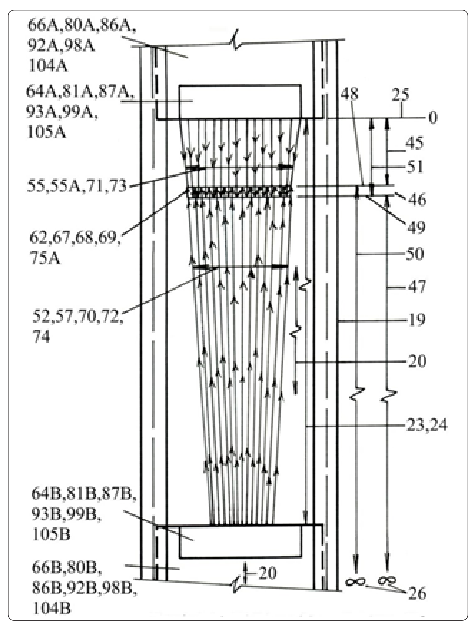

Figure 12: Three typical spatial distances, three multi-plane polarities and three interactions between two magnetic constructions with unlike front poles

A) Figure 12 shows that, when between the magnetic constructions, figure 8, 9 and 10, 11 (66A) and (66B) the mutual-double front-front interaction is occurring, figure 12 (52) of the middle-further distance (50), which starts its maximum strength from the middle-nearer boundary (48) and extinguishes through the further distance (47) to the infinity (26), this is attractive from distance (70) since the poles are unlike (57).

B) When between the magnetic constructions, figures 8, 9, and 10, 11 (66A) and (66B), the mutual-double front-front/rear interaction is occurring, figure 12 (55) of the nearer-middle distance (51), where its maximum strength starts from the zero distance (25) of physical contact of the nearer distance (45) of the magnetic constructions and its extinguishing stops abruptly at the middle-further boundary (49), this is repulsive (71) since the interacting poles are like (55A) and constitutes the nearer-middle interaction (73).

C) When on the two confronted magnetic constructions, figures 8, 9 and 10, 11 (66A) and (66B), the poles are unlike, figure 12 (57) in the mutual-double front-front interaction (52) of the middle-further distance (50), causing attractive interaction from distance (70) of the magnetic constructions (66A) and (66B), then the poles of the constructions become like (55A) in the mutual-double front-front/rear interaction (55) of the nearer-middle distance (51), causing a repulsive interaction (71) of the magnetic constructions, however, at the middle distance (46) these two different and opposite interactions (70, 71) co-exist and are equivalent, and at that point exactly the poles are unlike and like simultaneously (67) and simultaneous attractive and repulsive equivalent interaction (68) is generated, causing a stable balance (69) of the magnetic bodies (66A) and (66B), with full immobility of the magnetic constructions (66A) and (66B) and this middle interaction (75A) is designated as interaction of stable balance (69), causing further, apart from the stable balance (69) of the magnetic constructions also the interaction of the attractive secured field from distance (70). That is, when the one construction withdraws in the guide, figure 1 (19), it attracts and pulls the opposite construction, however there is always a distance (23, 24) and never physical contact, due to the repulsive interaction (71) existing at the nearer-middle distance (51).

The attractive interaction from distance, figure 12 (70), of the middle-further distance (50, 72), with the repulsive interaction (71, 73), of the nearer-middle distance (51), are equivalent (68), at the interaction (69) of the middle distance (46) of the stable balance (69). The attractive middle-further interaction (72) vanishes from the middle-nearer boundary (48) until all the nearer distance (45), i.e. to the physical contact of the magnetic constructions, and the repulsive, figure 12 (71), nearer-middle interaction (73) vanishes from the middle-further boundary (49) to the whole further distance (47).

With the application of the above, as the user moves the two confronted magnetic constructions, Fig's 8,9 and 10,11 (66A) and (66B), with the uni-directional forward-backwards, Fig. 35 (20), confronted always sliding possibility they possess to move inside the guide (19), there develop the following three experimental magnetic phenomena and facts:

1) When the operator brings anyone of the two magnetic constructions from the non-interaction distance close to each other, i.e. from the further distance (47) to the middle-nearer boundary (48), the opposite magnetic construction – if left free- presents an attractive interaction, figure 12 (70, 72) and moves forwards, i.e. to the opposite magnetic construction since it is attracted by it, to the middle-nearer boundary (48), where the strength of this attractive force (70) is maximum. This means that while there was attraction and the opposite magnetic construction was approaching due to the attractive force (70, 72), however this attraction vanishes abruptly at the middle-nearer boundary (48), leaving an empty air space, figure 1 (23, 24) between the magnetic constructions (66A) and (66B), which is the nearer distance (45) and at that point there is repulsive field, figure 12 (71, 73), between the magnetic constructions. Thus, if the operator pulls backwards, selecting anyone of the magnetic constructions, he will simultaneously pull the opposite magnetic construction, due to the attraction, figure 12 (70, 72) and between them there is a distance and no contact, on the contrary, with the only present observable effect on magnetism, which intends and defines that with an attractive interaction, the magnetic constructions will be joined with zero distance between them. Therefore, this specific attractive interaction (70, 72), which does not allow the union of the two magnetic constructions- due to a mediating repulsive (71, 73) field- is also designated as interaction of the attractive secured field from distance (74).

2) At the point where the two magnetic constructions are attracted and remain fixed with empty air space between them, figure 1 (66A) and (66B), stable balance is established, figure 12 (69), and contrary to the unstable balance of figure 2 (61), in the case of figures 3, 4 and 5, 6 of magnetic constructions (12A) and (12B), respectively with like front poles between the arrangements, where effort must be applied to equilibrate the two magnetic constructions, no effort is required here since the two magnetic constructions, figure 1 (66A) and (66B), by themselves equilibrate permanently due to the equivalence of the attractive and repulsive forces, figure 12 (68), in stable balance (69), at the middle distance (46).

3) When the operator brings manually anyone of the two magnetic constructions, figures 1 (66A) and (66B), from the middle distance (46) of stable balance (69), of non-interaction, close to the other, the opposite magnetic construction –if left free- presents a repulsive interaction, figure 12 (71, 73) and moves backwards. If the two magnetic constructions are held and the operator brings them closer, he feels a repulsive (71) gradually increasing force, the maximum of which is at the zero distance between the magnetic constructions, figure 1 (66A) and (66B) and of course its extinguishment vanishes abruptly at the middle-further boundary, figure 12 (49). If from the position of non-interaction of the stable balance (69), anyone of the two magnetic constructions is displaced, this will cause either the attraction and pulling from distance (70) of the opposite magnetic construction, if displaced to the further distance (47), or the repulsive (71) separation thereof, if displaced to the nearer distance (45).

The measurements of the spatial distances figure 1 and of the interactions, as those defined in figure 12, will depend on the size of the dipoles employed for the execution of the application and on the magnetic force that these possess. (See figure 14 below and magnet specifications used here, to produce the following results). The measurements of the distances with the defined materials and elements of the invention are typical, i.e. they apply for the present as well as for the subsequent comprehensive constructional types of arrangements of unlike front poles and on average they vary as follows: on average, the width-range of the nearer-middle distance, figures 1 and 12 (51), is 7.8 to 8.5 mm. The width-range of the middle distance (46) of the stable balance, figure 12 (69, 68) is wider in macroscopic measurement than that of the unstable balance, figure 2 (61, 60), from 0,1 to 2.8 mm and the width-range of the middle-further one, figures 1 and 12 (50), begins from the middle-nearer boundary (48), the distance of which from zero distance (25) is evaluated from (51) minus (46) and then this (50) is extended to infinity (26). It is also noted that the magnetic constructions pull one another on the guide (19), while as it is explained above, in between them the distance of the nearer distance exists, figure 12 (45), where the repulsive interaction (71, 73, 55) is applied.

Figure 13- Schematic representation of the three different fields (181), (182) and (183) between the above-mentioned magnetic arrangements with initial unlike front poles, in the sense of the general cause of the dynamic difference.

Figure 13 shows all the above-mentioned discussion with the schematic representation of the three different fields (181), (182) and (183) between the magnetic arrangements, with initially unlike poles as these as generated by symmetrical repulsive (183) and attractive (184) forces as the general cause of the dynamic difference governing the interaction of bodies, contrary to the state of the art which has only a non-symmetric field.

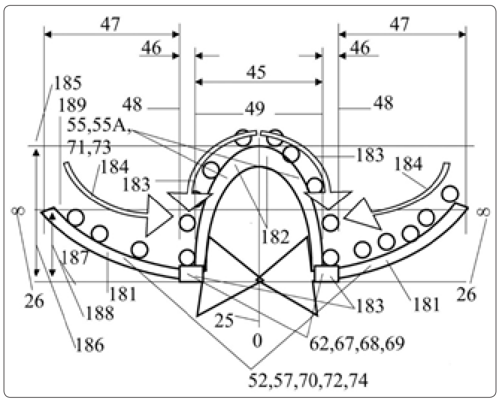

Figure 13: Schematic representation of the three different fields that exist between the magnetic arrangements with initially unlike front poles with the notion of the general cause of the dynamic difference

Figure 13 apart from the other elements mentioned above the high dynamic level (185) is shown to create a dynamic difference (186) with the lower level (187) and a repulsive field (182) with repulsive forces (183) is present. The same lower level (187) generates dynamic difference (188) with the lower level (189); the level (189) being identical to infinity (26) and an attractive field (181) with attractive forces (184) is present there. The equivalence of the repulsive forces (183) and the attractive forces (184) at the middle distance (46) creates a field of stable balance (183), which is of course at the lower level (187) without generating a dynamic difference and full immobility of the magnetic arrangements is obtained, thus the stable balance of this new constructional field, since at the lower level (187) external forces should be applied against the repulsive forces (183) or the attractive forces (184) to shift the arrangements from this field (183). In that sense, the field is a field of stable balance (183). The above figure 13 applies each time figure 12 applies, for any subsequent comprehensive constructional type of arrangements of unlike front poles, which make use of figure 12, and the description of that by the present type (65).

Characteristic features of a typical right cylindrical dipolar magnet (13) that is preferably used in all the arrangements as shown in Figure 14.

Figure 14 shows a typical right cylindrical dipolar magnet (13), which is preferably used in all the arrangements. The bases of the cylinder constitute the poles (1, 2) of the cylindrical magnet (13) with radius a (16), while the cylindrical surface (17) constitutes the neutral zone between the poles (1, 2) with height h, (18). The magnets of the application of the method may be of any analogous type and size which will be corresponding to those used in the invention, (13) as long as a single selected type is for all the arrangements using these and each dipolar magnet (7) to be a right central cylinder (13) or a cylinder of a similar shape and the ratio between h (18) and base diameter 2a is preferably equal to h=4/7(2a), without excluding a small deviation which will provide a smaller or larger ratio. An analogous magnet of the right central cylindrical (13) one is any artificial or electromagnetic or other alternative type of magnet similar to the cylindrical surface (17), however due to sides having a height h and being intersected by two parallel planar bases which have from side to side a dimension equal to 2a, and the ratio between h and 2a to be h=4/7(2a), the bases being not circular but triangular, hexagonal, octagonal, decagonal etc.

The geometry of the magneto static field determined by the geometry of the loops of the magnetic lines is the decisive and critical factor, which is served by the above-mentioned material requirements of the magnet and also of the ratio that is determined. If this geometry of the magneto static field that the loops of the magnetic lines have is served by another form and ratio of magnets, it will cause the same results that the description of the method determines.

Each right central cylindrical dipolar magnet (13) of the invention is similar to any other used, in order to achieve the application. The ratio between height h (18) and diameter base 2a of every magnet to be equal to h=4/7(2a) and the height to be h (18) 8 mm and the base radius a (16) is 7 mm, so that 2a equals 14 mm, the Gauss value for each north or south pole for each magnet is on average 4000 Gauss ± 100 Gauss, the mean flux – (X10μWb) for each north or south pole in each magnet varies between 296 and 308 and the type of the material of each magnet (13) is Nd-Fe-B.

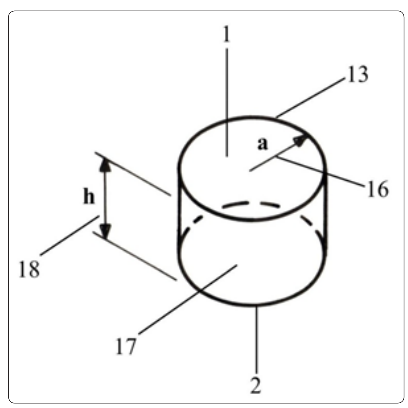

Figure 14: Typical artificial right cylindrical dipole magnet (13) that is used in all the arrangements

Proof of accomplishment of the experiments for viewing over the web and also for viewing all the interactions in action. Please view for each arrangement of multiple interactions as listed above,

the published article on LinkedIn, which includes video of each experiment as performed by the inventor in the Magnetic Materials 2018 conference in Budapest in his presentation of "special session". The title of the article is: "Magnetic system of multiple interactions» - Kertsopoulos invention at Magnetic Materials 2018 conference in Budapest, Sep. 24-26, 2018.
The link to the article is:
https://www.linkedin.com/pulse/magnetic-system-multiple-interactions-kertsopoulos-sep-kertsopoulos/

Conclusion

Can we conclude that the invention promotes as a core technology the production of new patented products?
Yes. Since the know-how of the invention is a world published patent, many new patented projects can be created, based either on the already-established industrial object or on the method or on the process of operation of the invention.
The invention is directed to a broad range of fields:

1. To the industry as a key source of investment and innovation for the implementation and production of new products and services.
2. To the organizations, companies, academia, research and technology institutions active in relevant fields to contribute to the research, development and design of products [13].
3. The scientific aspect of the invention gives the opportunity for numerous studies to be accomplished and also record in a scientific manner the new principles of magnetism that the invention reveals as existing in magnetism. Up to now, the international bibliography does not cover in the principles of magnetism each and every new polar and field entity achieved by the invention, with its specific function and characteristics. For example: In the state of the art we have like and unlike poles and the like poles repel and the unlike poles attract. These are two principles of magnetism. We do not however, have like-unlike poles and unlike-like poles simultaneously, the first resting in stable balance and the second resting in instable balance. This addition, would involve four added principles; two principles describing that there can exist simultaneously like-unlike poles and also unlike-like poles and two principles describing that the like-unlike poles rest in stable balance and the unlike-like rest in unstable balance. The above said is just a general example of the wide spectrum of scientific work that will certainly arise from the scientific revelations that are given by the invention in all its aspects.
4. All the experimental data are here for use by any scientist to experiment in the laboratories and produce theoretical data that will be derived by the experimental devices of the invention. Going from the practical, in our case the experimental devices of the invention, to the theory of the matter is the most assuring manner in science that success will come, for certain.
5. Experimenting with the magnetic phenomena and interactions of the invention can inspire and create new forms and proposals of visual creation with the elevated swings in the air of small and large sculptures, suspensions in the air and static balancing of awkward one legged structures. An example is the modern equilibration and synthesis concept through experimentation with a variety of shapes, colors and materials that the inventor has already applied to his constructions with the title: Static suspension in the air able to swing and Static Equilibration. The "stable balance" interaction is used in all three cases shown below in photos and videos:

https://www.youtube.com/watch?v=TvS-VKScJ3Q

https://www.youtube.com/watch?v=ClZyYj6QxVI

https://www.youtube.com/watch?v=H0XcdD1isvU

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https://www.linkedin.com/pulse/kertsopoulos-magnetic-invention-recognized-cern-top-18-kertsopoulos/?published=t

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