The present invention has for object to show how to realize a machine allowing to transform fluid energies into mechanical energy, or conversely, mechanical energy in fluid energy, this machine being able to be used as windmill, in air or in water, as vacuum cleaner, in air or in water, as propeller, as pump, in air or in water, this machine having the capacity to produce or to receive some energy, with a volume of much lower the one that one realizes at present with windmill, or conventional pumps, or other batch current. The present invention will show afterward supplementary versions of the energy windmill, notably by showing various capacities of pales, capable of realizing energy windmill in their version engines, either in their version compressive, or in other words in their version condensatrice or expansive, additional modes of entrance and exit of fluids, notably outside towards the centre, or still by highly-rated rectilinear towards highly-rated hooked, supplementary combinations allowing to realize them in a staged way, and to produce jet turbines or turbines of expansion, various modes of supports of pales, various additional applications, as vacuum cleaner, ventilator, propeller, pump, jet turbine turbines of expansion.
Fig. 8
ENERGY MIND WILL

[0001] The main shape under which will be revealed the present invention is that of the windmill, activated by fluids such as air or water. It will be shown subsequently that the other applications are possible, for example, those realizing the machine under shape of pump, vacuum cleaner, propeller et cetera.

[0002] Windmill appears generally under two main types. In the first case, one will say that the windmill is of frontal type, as far as the axis of rotation of the helix is horizontal what is resulting in a location of the one that is vertical. Airs, or liquids enter it so by the front and are thrown rejected with the back. (FIG. 1 a) In the second case, the machine is especially used as turbine, and one will say that the machine is of side type, because the axis of rotation of the pales will be generally in the same sense than the one of the travel of the fluid, and what the pale will be arranged horizontally. In this last case, fluids, air or water enters on the highly-rated of the pale. (FIG. 1 b)

[0003] These two types of machines are hardly known, the first, under shape of windmill, and the second under shape of turbine.

Defects of Each of these Procedures

[0004] The frontal windmill has mainly two defects. First of all, because the air inlet is there frontal, it is evident that the maximal opening of pales can not be superior to forty five degrees. Crossed this degree of angle of the pale, the quantum of grip in the wind begins gradually decreasing. Then, the geometry of each of the pales produces reduction of surface as the pale approaches the centre of the axis of rotation. Pales is so reduced so generally as regards their surface of grip in the wind. (FIG. 2 a)

[0005] As regards the windmill with lateral entrance, defects are different, but not less important than in the frontal realisation.

[0006] The first defect of this last one consists of what grip in the wind is positive on one of its quoted, and denials on highly-rated inverse. To obtain a good efficiency of the windmill, it is necessary consequently to mask highly-rated ineffective, by covering it with a part being able to simultaneously serve of receiver of air. But, especially when this type of machine is used as windmill of water, system remains with difficulty useful, because it is not easy to drain away waters included in the negative section, in against running of the entrance of fluids to the windmill.

[0007] The second difficulty of this type of windmill consists of what the opening of pales is variable, what entraine the fact which the pales of centre accepts, wasted their perpendiculartie in the grip of wind, which not enough energy, and by them highly-rated, and this even on their couple is the maximal state, are in big part masked with pales situated between these two positions. In the final, the machine works mainly on the average pales, and each masks partially the following one. The total of the grip in the wind is also limited, not only in surface, but also in efficiency. (FIG. 2 b)

First Version of the Invention

[0008] The way of producing the different realizations of the present invention consists in producing a windmill pales of which will have a variable position inside the same cycle, in such a way to stress grip in the wind in positive phases of this cycle, and in such a way to reduce her, even to cancel him, during the phases of grip in the wind denials of this cycle, every being pale, to realize this movement, change, in main realizations, by two means working in complicity.

[0009] The first realization of the invention consists in each of the pales of a set of pales, on a belt, which belt rose, in the most simple version on two wheels of entrainment, which axes are at the same time arranged, these two wheels having rotations on the same plan. (FIG. 3) More exactly, the machine being able to be used as windmill in air, in water, as pump, vacuum, vacuum cleaner, propeller with air or with water, this machine being characterized by the fact that the pales of machines is connected directly or indirectly with two different driving structures and mechanically coordinated among them, this entrainant this pales to describe, for each of their cycle, a continuation of two alternate movements or more repeating in each of the cycles of the machine, the most elementary version of the machine being realized by a classification understanding in composition:

[0010] In the more basic version of the invention, pales of the machine are installed settled on a means of support such a belt, a chaine, wheels of support and stiff frame of support.

[0011] A means of support of pales, such a belt, a chaine, this belt or this chaine having risen on two wheels of entrainment, what allows it simultaneously synchronization.

[0012] Two wheels of entrainment axes of rotation of which are parallel, these wheels being aligned the one towards the other one preferably by mechanical means, these wheels containing preferably tensors allowing to bandage the belt or the chain of support of pales. We will see later that, for a better support of the pales, preferable embodiment is using two sets of to wells and belts.

[0013] These wheels of entrainment being, when the machine is used to obtain from it a return, connected with a driving element such a generator, an engine, a pédalier, the movement of pales making then during the rotation of the wheels of entrainment and of the movement of the belt or the chaine in an alternately rectilinear movement, and hooked, this rectilinear movement occurring between the two wheels of training, and this movement curved occurring when pale follows the wheels of training.

[0014] By realizing the machine in this way, one will note that the movement of pales, length of the wheels of entrainment produces a circular movement in the extremities of the machine, but produce a rectilinear movement between the two wheels of entrainment.

[0015] In the first case, it is evident that the pales of this machine will be able to be realized in their full size, because they will be able to be oblong or squared. Then, it is important to say that the engine torque of every pale will be for its maximum not only for all the hooked running of their kinetics, but also for the oblong running.

[0016] The grip of wind, in the rectilinear portion of the kinetics can so be total, and which that either the rectilinear of the movement, or that of the height, or that of the bottom, pales will always be in the direction of the good reception of the wind. The same thing should be noted as far as two hooked extremities. (FIG. 6)

[0017] The surface of illegal securement of the wind of this type of windmill is so of much superior to that of the standard windmill.

[0018] This configuration is of the most important, and it for several reasons, of which some concern the mechanic aspect and the ratio thickness power of the machine, and
other, more important, concern the character of specific limited congestion in this type of machine.

Besides, as one will be able to notice it, the machine has an oblong speed, ended with bows. When arranged in the horizontal, this machine will offer a very weak height with regard to its width, what will allow to arrange it in little profound rivers not while damaging at sea traffic as well as ecological character of this one. Congestion extremely limited with this windmill will allow also to arrange it on the roof of buildings without damaging the aesthetics of these.

Naturally this type of windmill is preferably provided with an aileron of location, this aileron allowing to realize the adaptation of the windmill in front of wind. But the directional positioning of the machine may assured by standard means.

Furthermore, a deflector will be able to be arranged in the centre of the windmill, in such a way to monopolize the maximum of go possible to redistribute it on pales, and to increase the efficiency of the windmill. Besides, one will also be able to notice that the windmill will also be able to be arranged upright. This disposal will also be able to it turn out of the most interesting because it this one to be added to any existing post, and consequently of numerous electric lines will be able to see adding this type of windmill As all the windmill, it is necessary to avoid that this one becomes enraged during violent winds. To manage to control grip in the wind, one will be able to use different means. The first will modify the group of windmill. For example one will be able to suspend it from a checkmate in a flexible way, and for example with a second deflector falling under winds violent, to act on the angulation of the windmill in the wind, in such a way to neutralize it gradually grip One urged also to play known the angulation of pales, by opening them more, if one took care of connecting them with the belt of a way by allowing the simultaneous pivotment of the group of these.

Naturally, the belt supporting pales can not chaine. In certain cases, the wind entrainera pales in a not wished way, and entrain the twisting of the belt or the chaine.

The halving of the wheels of entrainment will allow to realize the support of pales by a duet of belts or mechanisms. Naturally tensors will be able to be added to the system in such a way to assure of it the safety and security of functioning. Also mechanisms of adaptation of the adaptation of wheels should be added, in such a way to make sure of perfect adaptation of belts.

One will also be able to use differences of rotation of the two sets or groups of wheels and belts to close and to open pales to the wind.

One of the most simple mechanics allowing this last eventually consists in joining two secondary wheels by a belt or a chaine and to install there among these a tensor having the capacity to be moved in a rectilinear way. The most simple mechanics consists in supporting each of the pairs of wheels on a different axis and in uniting these axes with a belt common to which one will add a tensor. As a consequence, as the tensor will be more protruberant on one or the other part of the belt, this one will be lengthened (stretched out) on one of its, quoted and esteemed, and made look smaller on the other one. By moving the tensor in the other direction, it will be the opposite part of the belt which will be stretched out, and additional part will be made look smaller. As a consequence, wheels will set, according to the position of the tensor, the delay or the advance the one by report the other one, what will allow to adjust the angulation of pales with regard to the strength of the wind. Indeed, as the tensor will be at the top or in the bottom, the gap of wheels will be early or behind.

Another way of adjusting the angulation of pales with regard to the wind will be simply to install the windmill, in a not fixed way in this one, but rather flexible. A stabilizer will then be able to be installed on the checkmate, and will be subsequently connected with the windmill. It will activate consequently, under the strength of the wind the slope more or less pronounced from the windmill to the wind, and will favor, as the case may be increase or reduction of the grip of wind. It is important to specify that the windmill will also be able to contain wheels mediate supplementary allowing to stretch out the parts of the kinetics of movement of the pales of it who will be rectilinear.

Lateral Energy Windmill

The windmill can be also realized in a lateral way. Indeed, we showed up to here how could be realized a windmill with frontal entrance of wind on pales. We are going now to show how to realize a grip of wind more interesting than that realized in the conventional lateral windmill.

It is important to remind that in Windmill with entrance fluids on pales, not only, fifty percent of them offered one against force resulting from a movement against the direction of the fluid, but as well, as in the positive part, the successive pales masked the following pales, what reduced part to the wind in this part of the machine. As one will show it, the lateral windmill improves these returns, and it simultaneously under these two angles.

Way the most simple to build a windmill with lateral entrance of fluid, is to realize her by using duos wheels of entrainment of different thickness. This procedure will cancel the parallel lines of movement which one obtains, as in the windmill with frontal entrance of fluids. Indeed, in this version of the windmill, the movement of pales will make in oblique way in the system. As a consequence, if pales is arranged perpendicular way in the lines of movement, fluids will enter it in a way angules on a highly-rated, and by an opposite angle on highly-rated inverse.

By this way of making, even though the rectilinear are not parallel, one obtains that fluid works positively on these, and it simultaneously. Push is also positive on the circular part of the smallest of the wheels of entrainment. However, pales situated on it left circular of the biggest of the wheels of entrainment is in a negative position. One notes consequently in, total, a net increase of the number of pales the reach in the wind of which is positive. Furthermore, as the lateral windmill, as the windmill with frontal entrance of fluids contains rectilinear parts of the kinetics of movement, pales will be in these totally used parts, what accroit even more their reach.

As regards specifically pales situated in the hooked part of the biggest of the wheels of entrainment, it will be easy to conceive that she (it) will be able to curl up on themselves under the opposite push of fluids, in a spontaneous way, or still in a mechanical way. In this last case, enclosure or melting pots will be able to be practised in the wheel of entrainment, in a way that the bottom of pales rushing there, this having the effect of causing of it the withdrawal.
As this windmill will be even more flat than the frontal windmill, it will be able to be used as windmill marine, or still in places in which it has to remain absolutely inappropriate.

A version different from this type of windmill will be able to be obtained by realizing this one from three wheels of entrainment successive, what will give to the windmill so to speak a triangular configuration. (FIG. 11)

As first, this way of realizing the windmill with entrance of fluids lateral contrain one positive grip of these on two of the highly-rated. But contrary to the previous windmill, the negative part of the kinetics of pales will not make a bow, but rather on a rectilinear. For the case or pales will be fixed, they will be so all one following the others, what will reduce considerably their negative grip of fluids. As first, however, this one will be able to be flexible, and consequently to become perpendicular in fluids during their ascent of this one. One has to note that the windmill can be also realized in superior number of successive wheels, for example four. But this version does not seem to us to produce of evident supplementary positive effects.

Windmill Lateral with Training by Weight
It is known well that brooks can, with a debit much weaker than that of rivers and rivers, produce some energy, by using, not the speed of the current, but the weight of the water. The wheels of water one used during decades as means elementary to produce some energy.

Still there, the principle of the windmill seems to us to be able to be applied. One can indeed realize a windmill so the two wheels of training will be inclined in a oblique way with regard to the ground, and to provide belts or chains or mechanics uniting these wheels or bow fixed of vase of reception of the water. (FIG. 12) As first, these vases moving hard rectilinear, will begin their entrance on this one to produce the maximum of their energy and it for during their descent, while in the conventional wheels of water, the maximum of pushed is obtainedonly centre of the journey. It is necessary also to add them a means of seesaw of muds to allow the emptying of it, what is not necessary with windmills, of which muds are double to be connected au’la active structure.

The solution of windmill of weight becomes even more interesting when one notices that one can produce it with less details. Indeed, one can simply realize one waterfall in shape of sledging of shape, for example oblong. One will successively make for it slide pales connected with the cabling. This pales will so be able to go out by the high-rated, or still by the height, kicking away so the following pales. The water inserted between every pale and skid will make them come down successively, not the force of the weight.

As first, one of the advantages of this type of windmill is reduced congestion which it produces, being this before any matter caused by the shape under which she is realized.

Before actual point, the wheels of entrainment of the windmill were arranged in a successive way and axes of rotation were there parallel. The next realization of the windmill will be produced, as first by two wheels of entrainment, but which will be arranged either on the successive axes, but with wheels of various thicknesses, or on the axes from which the angles of rotation will be different, these two situations being able to besides be realized simultaneously. (FIG. 13)

In both cases, pales will be connected with one of the wheels in a flexible way, and with a wheel, indirectly by a means, so flexible. As first, the kinetics of pales will be variable in the course of the same cycle and will aim to benefit from fluids in action and to minimize or to shield completely their against reactions.

In the first example, a first wheel of entrainment will have risen rotation on an axis of a thickness allowing that it has a hollow inside. Inside this first axis will be arranged a second axis of rotation, but of which the angle of rotation will not be the same that of the first axis. A second wheel will be connected in a stiff way with this second axis. As a consequence, the two wheels of entrainment will move on different plans. Successive pales will be connected with one of the wheels and a means such a stalk, will connect them with the second wheel. As a consequence, pales will recover then of the estrangement of wheels, and will go to bed during their link. The detail of link will be able to be the second part of the pale.

In a different version, the centres of the wheels of entrainment will be different, what will produce an effect been on drugs between the kinetics of wheels. As first, if flexible pales gathers (reunites) these wheels of entrainment, they will stand up and will comply successively and alternately, what will allow to spread them in the wind, and to fold them there against wind. Naturally more complex versions can be afterward realized, this version putting in combination the various variations of windmill already shown.

As example, one will simultaneously be able to use two belts of the same length uniting each two wheels of entrainment of the smallest, different thickness are in front of the biggest. Lors pales will display in opening in and in successive lock. (FIG. 14)

But, in windmill, it is necessary that to respect the principle that mechanical efforts owe be reduced the most possible, and for it it is necessary to avoid the too heavy realization of structures. Although the water is a more powerful element, the same reserves have to apply.

Windmill in Vertical Location
The windmill has everything of abor conceived to decrease the space necessary for the implanting of a windmill of water. The lateral configuration is so an important characteristic. This configuration can also allow it to be advantageously and discreetly arranged on the roof of buildings, what will be a major trump card.

Besides, one can easily conceive that grip in the wind will be exactly even when the windmill will be produced in vertical disposal, by opposition at the horizontal disposal which we up to here showed. (FIG. 15) This position will allow of collect it around any existing post, and still there in a reduced space, to produce fairly of energy. The big networks of electric distribution are places of ideal place of windmills at vertical disposal.

Windmill in Fixed Structure
The principle of kinetics of the windmill will remain intact by supporting pales in a mechanical following way.

It is indeed easy to conceive a flat metal rod, provided with a side melting pot, linked in a stiff way with a foot of the windmill, and to suppose that each of the pales is
provided with a base provided with movements, these movements being linked in the melting pot of his fixed structure. (FIG. 16 a)

[0049] Each of this pales can act remotely, but, it is preferable which are inter connected, in a way that the rising pales has the downward pales it against weight.

[0050] Conversely, the structures of supports of each of the pales, will be able to containing wheels which will come to set one flat bar of metal. Ideally this flat bar will be more thick in hooked extremities in such a way to keep and preserve tension on supports them (FIG. 16 b)

[0051] In a way has to make sure that structure does not undergo twisting inconvenient, it’s better doubles stiff structure and as well as roads of support.

Applications (FIG. 17)

[0052] The present machine can receive various application, or, as we let us have already seen it mainly of that of windmill of air. The other relevant applications of the machine can be made, as for example, that propel, of pump, vacuum cleaner, vacuum, etc. et cetera.

[0053] In so much propeller, the machine will be able to be arranged in wings plane, one else in pedalos. As pump it will be able to serve of turbo compressor, or of vacuum, in engines.

[0054] Besides, the machine to be can be consisted of successive machine assembled not the only one, divided into halves.

[0055] The FIG. 18 shows that one can lengthen and stretch out the width of the windmill by prolonging the rectilinear part of its movement. This is practicable with adding wheels of entrainment intermediaries between the terminal wheels of training. By go, several windmills can be arranged successively. (FIG. 18 b)

Summary of the First Part

[0056] In our first version of our titled invention energy windmill, we showed that in the conventional windmill, pales turned generally in a way rotationelle around a central axis. (FIG. 19) According to this way of making, one can notice the two main characteristics of the pales of these machines. First of all the geometrical shape of these is inevitably triangular, and it in such a way of the some not supasser not the others in the centre. Now this configuration reduces of as much the surface of grip to the wind as one gets closer to the centre. Secondly, always by getting closer to the centre, stupid notice that the beam of the decreasing pale, the movement of this one decreases simultaneously. The pale, this time for reasons of speed of movement, accepts so less and less fluid as one approaches the centre of rotation of these. One notices so that in the conventional Windmill, it is mainly the extremities of the pales which produce the work of production of energy, because they are only these parts which work completely in surface and hurriedly. The conventional Windmill is so extremely limited, and their effort believes only with the increase of their dimension.

[0057] We showed, in our first part, that if one realized Windmill from two wheels of entrainment connected among them by belts, these belts supporting pales, one would allow the pales to realize alternately movement rectilinear and hooked. It is the rectilinear part of these kinetics which will have a mechanical interest. Indeed, one can, from this kinetics of movement to create pales shape of which will be either triangular, but rather oblong, and which consequently will multiply by two the surface of acceptance of fluids. (FIG. 20)

The second important quality which will allow to obtain this type of kinetics of movement of pales, will be that the speed of wind will be identical in all the portions of the pale, that they are moved closer or taken away from the centre of rotation. Consequently even pales enlarged with the pale will produce an effort identical to original parts, pales will produce so more energy in surface, and more energy in term of couple and equal speed of movement on all their parts.

[0058] We afterward showed different versions of these machines, for example to parallel wheels angulées (FIG. 21 a), or still in entrance of fluid of type turbinaire (FIG. 3 b). We also showed different positions of machines, horizontal or vertical, (FIG. 3 c) and structures of supports more mechanical pales, for example by movement on rails. (FIG. 21 d)

[0059] The present invention has for object to complete our work by the main elements explicatifs following:

A) The addition of precision relative to the locations of pales by connections in wheels and belt of support, or still in the rails of support, what will allow better to determine versions motorisantes or compressives machines.

B) We shall show that machines can be used under different additional modes of entrance (entrance) and exit of fluids

C) We shall add supplementary versions of machines

D) We shall comment more specifically certain on mechanical assembly and will add new types of support of pales,

E) We shall comment more on the different possible uses of machines, as

F) windmill of air and water, but also as ventilator, compressor, jet turbine, propeller, pump, driving vacuum cleaner, ventilator.

[0060] Relative precision in location of pales, on belts, or rails.

Compressor Effect

[0061] By observing in a more precise and detailed way windmill, one notices that the couple of the same pale of the machine varies according to its position according to the following two variants, namely according to its position in the cycle of the machine and, in hooked position of cycle, according to its situation with regard to the belt or with regard to the rail of support as the case may be.

[0062] Indeed, one will notice that when pales is arranged outside of belts, the speed of movement of the extremity of the pale will increase during its situation will be in the hooked part of the kinetics. The pale will have so, in this phase, if it is outside of belts, an effort and a return superior to pales situated in the rectilinear part of the kinetics. (FIG. 22 a)

[0063] Besides, on the contrary, if pales is arranged inside belts or inside rail of support, one notices on one hand that their return is identical the one them to produced when they were situated outside of belt. But, besides, as regards the comparison of their return in rectilinear position with regard to their return in hooked position. One will notice that the speed of movement of pales, during their passage in the bows of the kinetics will be reduced what entrainera a decrease of the grip in the wind, and consequently the production of energy. In this type of assembly, pales in position of rectilinear kinetics will produce consequently a bigger return, and it by decreasing considerably thickness and congestion of the machine (FIG. 22 b).

[0064] Besides a disposal shared with pales, outside and inside belts will have the effect of creating, while preserving
notices energy creates in phases rectilinear, to share pales in position curved in two opposite portion, a producing more energy and the other one by producing less, the total of two being equivalent to that of the pales in position of rectilinear kinetics. This type of machine will be applicable in all the situations.

Modes of Transition of Fluids in the Machine

[0065] In our first part, we mainly showed two modes of traffic of fluids in machines, is type windmill, and type turbinaire. In the type éolien, fluids, liquid or by air, penetrate by the front of the machine and ressortent by the back, in the way, the conventional windmill. (FIG. 23 a)

[0066] In the type turbinaire, fluids, air or liquid, enter by the highly-rated of the machine susceptibility of which is positive, while the highly-rated susceptibility of which is negative are masked. In the case of the windmill of type turbinaire, concept allowed to increase positive parts with regard to negative parts, and consequently of accroître the return on machines.

[0067] Indeed, we showed that when machines windmills were realized in a way turbinaire, one could produce them or with one of the wheels much bigger than the other one, or with three pierce of support, what in both cases produced two positive rectilinear parts, and third part, rectilinear or hooked negative, and weakened. (FIG. 23 b)

[0068] In this second part, we add processes of transition of fluids in the supplementary machine.

Reorientation of the Tail Orientationnelle of the Windmill

[0069] The first realization of this part consists in directing the directional tail of the windmill in a way that one of the rectilinear sections of pales is in right-hand side line with the wind. Consequently that this will practically have no effect in this section. This entraînera a perpendicularisation of pales with regard to the wind of it additional part. The pales of this section will be consequently totally opened, in the style of the sails of one to veil with rear wind. This disposal will be effective by time in which the wind is weak but constant. (FIG. 24 a)

Realization of Type Turbinique Doubles Transition of Fluids in

[0070] As we have already mentioned it, machine of type turbinaire work positively only on one of the highly-rated, this being increased for two quoted or esteem on three on windmills. One can however imagine two transitions in opposite direction in these, in such a way to pull some positive energy for each of the highly-rated. This type of disposal will be less effective in natural transitions, such the wind, or stream. But in turbines, or the entries of water are artificial, this disposal will be completely practicable. One can imagine easily two ways of entrance to opposite direction of the windmill, and two exits in opposite direction, (FIG. 24 b)

Outside and Took Out Entrance Interns.

[0071] One can besides, always at the level of machines with transition of the fluids of type turbinaire, that the entered of fluids will make outside, and exit in the centre of the machine. (FIG. 6 c) Conversely, between fluid can make inside the kinetics of pales and the exit outside.

Windmill’s Walls

[0072] We showed in first part that the set of the movement of pales could be constituted with several consequences of rectilinear and hooked movements, before returning in the initial position by a last rectilinear kinetics. This produced a group of sous windmill comparable to what we named a windmill wall. (FIG. 25 a)

[0073] In the present part we complete this possibility by showing that this eventualty is also practicable in the style of a transition of type turbinaire fluids. As first, it will be a question of succeeding alternately several kinetics rectilinear and curved to return in the point of departure. (FIG. 25 b) the interest of such a windmill wall, used in the water consists in minimizing the impact of and or pale, because this part, little blocking will be able to, besides to be easily to be headed with a lid able of keeping and preserving air. The movement of return of pales will make so without any resistance.

[0074] System will also be able to be realized by arranging the windmill in a perpendicular way in the direction of fluids. (FIG. 25 c) In this case, return in the point of departure will make also by succession of rectilinear and hooked kinetics.

[0075] One will note that turbine of water can all be headed with a lid I performed with ai, what will cancel the friction of return of pales. (FIG. 26 a)

Machines of Type Angular Windmill

[0076] One will besides be able to imagine a machine being situated in the middle road enters the machine transition of fluids of type windmill and that of type turbine, the transition of fluids making partially of these two manners simultaneously. To realize this type of machines, one will be able to support pales by two sets of wheels, however here different thickness. Pales will how an angular position. fluids will so be able to be sucked up partially with the front and pushed away or repelled in the centre, in the style of a turbine. (FIG. 27)

Windmills Staged

[0077] One will also be able to realize windmills in the style of jets turbine and producing several terracing of windmills the some around the others in such a way of, for jet turbine, to spin-dry fluids, or for turbines, so as to to produce an expansion gradually gases or compressed airs.

[0078] In the first case, fluids shall leave outside and will cross layers energy windmill towards the centre and should the opposite occur, gases under pressure will leave of the centre and will produce an expansion towards the outside. (FIG. 28 a and b)

Machine in Helical Descent

[0079] The machine will be able to be produced with a helical kinetics ave to return in its point of departure in a rectilinear way. (FIG. 29)

Machine with Unique Belt.

[0080] As we mention it in the end of the present, several uses are possible processes of windmills higher statement. They will be able to not example be integrated into simple ventilators of ceiling or still into vacuum cleaners of house. Consequently, machines will easily be able to be conceived with pales simply connected with a single belt, and with a limit, be realized in the only one piece with this belt. (FIG. 30)
Support of Pales, 

[0081] In the previous versions of machines, wheels were arranged on the same tree, what assured them one rotation of identical speed. One can however realize machines with independent wheels among it. Lors belts will be maintained in similar movement by support in S or still there, particularly in this way, one will notice that wheels synchronize exactly as if they shared a common axle. Their pales will afterward be able to be connected with these brooches arranged in x. (FIG. 31) 

Wheels of Intermediate Support 

[0082] During realization of rather long machines, the additional wheels of support will be able to be added between wheels maîtres. (FIG. 32) 

Additional Utilisations 

[0083] Machines higher commented will be able to be used come windmill of air and of water. They will be then changed with natural elements. But they will also be able to be activated with elements or forces of artificial nature. 

[0084] They will be able to be consequently activated mechanically by a shape of motorization. In this case, they will be able to be used as ventilator of ceiling, vacuum cleaner, pump of turbo compressor, turbine with water of electric dam, jet turbine of boat, ventilator of radiator of car or the other machine, the turbine of nuclear power station, pumps in water of filtreur et cetera, propeller of boat, plane of helicopter, pumps inter of jet engine, pumps in gas et cetera. (Fig. 33) But they will also be able to be activated with elements or forces of artificial nature. They will be able to be consequently activated mechanically by a some shape of motorization 

Supplementary Variants 

[0085] We showed first that powers of pales vary according to the thickness of the wheels of entrainment, and also according to their location with regard to belts. 

[0086] Such as we can notice it in the FIG. 33, when the wheels of entrainment are inside pales, speed of pales moving in the rectilinear parts of the kinetics remain to ones equals on all their parts, while pales being in the part curved with the kinetics decrease in speed in their bottom. It is to say that when pales be situated in the internal of the belt, the pales in rectilinear kinetics develop more energy than those in bows. When pales is situated in part outside the kinetics of the belt it is the opposite which occurs that is to say they are the pales which are in them left curved with the kinetics who see leu5frts extremities accelerating, and consequently to develop pious of energy that pales in rectilinear kinetics. This excluded however the geometry of the pales which comes, naturally to weaken this statement. 

[0087] Translated into term of couple, the couple of pales in position curved in one kinetics in which they are internal in the belt of support, the couple of this pales is of half lower than that the same pale in position of rectilinear kinetics. 

[0088] If one considers besides the surface veiled of some left for pales in position of kinetics curved, this coefficient of profitability decreases still with regard to pales in position of rectilinear kinetics. (FIG. 33) 

[0089] Up to here, the wheels of training simultaneously played the role of driving wheels. A variable of the present invention is to take up that driving wheels and of entrainment belts can be different. Indeed, one can suppose for example, dan a very simple case, that the machine is support by two supporting wheels, but that one of the intermediate wheels of support are this time this more voluminous, so that it supports simultaneously two left rectilinear of the belt, and serve consequently of driving wheels. One will notice since the couple of any pale, since it is in passage in the bows of thickness a subordinate, or in parts rectilinear the same will have quite grown on the beam of the driving wheel. 

[0090] One will consequently be able to draw one kinetics of machine or the driving wheel is more voluminous than the wheels of additional training. (FIG. 34) 

[0091] Leaving of this example, one can from then on imagine that driving wheels will even be able to be arranged outside of the system. This varying is important because while protecting the couple, pales could be arranged on wheels of entrainment smaller, while activating, because driving wheels will be activated by one same belt, a driving wheel this thickness superior. The driving wheel will be able to be parallel to the belt and to the system, perpendicular, or still even on a third plan. (FIG. 35) 

[0092] One can also imagine that driving wheels can be besides commanded and ordered with the wheels of entrainment. (FIG. 36) 

[0093] The machine can besides be, so to speak poly functional. Indeed, one can imagine the machine can gather several windmills one of wheels of which will be shared by all these. In b of the same figure, one supposes that if this wheel shared is fixed, the set will from then on be able to realize a kinetics rotationelle. As a consequence windmills will be simultaneously the active pales of a bigger windmill. (FIG. 37) 

[0094] In last analysis, one will note that pales can be replaced by magnets (affectonates), this allowing to produce a new kind (genre) of generator or electric engine of which shape and specific congestion will be able to allow new uses, notably in electric motor cars. (FIG. 38) 

SUMMARY DESCRIPTION OF FIGURES 

[0095] The FIG. 1 calls reminds the two types of, windmills generally used in the industry windmill appears generally under two main types. Has it, one finds the, windmill which one will say to frontal grip of wind. In the second case, especially used as turbine, one will say that the machine has a grip of wind on the lateral part of pales. 

[0096] The FIG. 2 calls reminds the main defects of this, windmills. Has it, are called reminded the defects of the, windmill frontal grip of wind, and in b of the, windmill with lateral grip of wind. 

[0097] The FIG. 3 shows a first version of the invention The first realization of the invention consists in each of the pales of a set of pales, on a belt, which belt rose, in the most simple version on two wheels of entrainment, which axes are at the same time arranged, these two wheels having rotations on the same plan. 

[0098] The FIG. 4 shows that the specific shape of this type of windmill allows to use it advantageously in several places, of which notably in the collection of rivers, on the roof of buildings. Indeed, as one will be able to notice it, the machine has an oblong speed, ended with bows. When arranged in the horizontal, this machine will offer a very weak height with regard to its width, what will allow to arrange it in little profound rivers not while damaging at all the sea traffic of this
one. Congestion extremely limited with this, windmill will allow also to arrange her (it) on the roof of buildings without damaging the aesthetics of these.

[0099]  The FIG. 5 shows that the good orientation of the windmill in the wind is assured with a deflector such as to show has it. Furthermore, a deflector will be able to be arranged in the centre of the windmill, in such a way of monopolize the maximum of go possible to redistribute it on pales, and to increase the efficiency of the windmill, what is shown in b.

[0100]  The FIG. 6 shows that the, windmill can be also arranged upright. This disposition will also be able to it turn out of the most interesting because it this one to be added to any existing post, and consequently of numerous electric lines will be able to see adding this type of windmill.

[0101]  The FIG. 7 shows how to realize the windmill in a way that the angulation of pales can be variable, according to the strength of the wind, in such a way to avoid that this one warms. Different means are shown has it and in b.

[0102]  The FIG. 8 shows different means which allow to reassure the resistance of each from the pales to the wind.

[0103]  The FIG. 9 shows how one will be able to realize an illegal securment of the variable wind, according to the force, by integrating into the machine an adaptation of sails or pales.

[0104]  The FIG. 10 shows how to realize a windmill with entrance of fluids laterals. Way the most simple to build a windmill with lateral entrance of fluid, is to realize it by using deus wheels of entrainment of different thickness. This procedure will cancel the parallel lines of movement which one obtains, as in, the windmill with frontal entrance of fluids.

[0105]  The FIG. 11 shows how to realize a kinetics similar to the previous windmill. This version different from this type of, windmill will be able to be obtained by realizing this one from three wheels of entrainment successive, what will give to the windmill so to speak a triangular configuration.

[0106]  The FIG. 12 shows how to realize a windmill oblique, this one being able to then replace the wheels of standard water. One can indeed realize a windmill so the two wheels of training will be inclined in a oblique way with regard to the ground, and to provide belts or chains or mechanics uniting these wheels or bow fixed of vase of reception of the water. As first, these vases moving on rectilinear, will begin their entrance on this one to produce the maximum of their energy and it for during their descent, while in the conventional wheels of water, the maximum of pushed is obtained only centre of the journey.

[0107]  The FIG. 13 shows how to obtain a new kinetics of the pales of the windmill by combining two wheels of entrainment centres of which have or their axes of of rotation differently angul, s, or still have the centres of their wheels of entrainment disorientated.

[0108]  The FIG. 14 shows a more complex realization of the windmill, obtained with the mixture of the previous variants.

[0109]  The FIG. 15 shows that, the windmill can be also arranged vertically. Besides, one can easily conceive that grip in the wind will be exactly even when the windmill will be produced in vertical disposal, by opposition at the horizontal disposal which we up to here showed.

[0110]  The FIG. 16 shows that mechanics consisted of belt and wheels of entrainment can be inverted, and that, without modifying concept dress rehearsal of present invention, wheels can be arranged on pales, in such a way to circulate on stiff and fixed stalks shape of which is established in such a way to be similar in the kinetics of the pales which one hears realizing, of which ask it main representations were shown higher.

[0111]  The FIG. 17 shows various application of the windmill proposed to the present invention. The present machine can receive various application, or, as we let us have already seen it mainly of that of windmill of air.

[0112]  The FIG. 18 shows that one can lengthen the width of the windmill by prolonging the rectilinear part of its movement. This is practicable by adding wheels of entrainment intermediaries between the terminal wheels of training. These wheels can be multiple and welcome belts and chains by top and by bottom. Besides, several windmills can be arranged successively.

[0113]  The FIG. 19 shows that one can insert inside a central body of a machine, several successive windmills

[0114]  The FIG. 20 calls back the functioning of the conventional, windmills and their main gaps, which will be corrected with the energy windmills.

[0115]  The FIG. 21 calls reminds the main configuration of the, windmills of type windmill. In the most simple version, windmills are realized from two wheels of entrainment connected among them by belts 6, these belts supporting pales, one would allow the pales to realize alternately rectilinear and hooked movements.

[0116]  The FIG. 22 calls reminds different versions of these machines, for example parallel wheels angul, es, or still entrance of fluid of type turbinaire.

[0117]  The FIG. 23 shows that brought reported them of force of pales can be established according to their position in the cycle of the kinetics, on one hand, and on the other hand according to their outside or internal position will have the belt or in mock of entrainment

[0118]  The FIG. 24 call reminds modes transition of fluids in the windmill and proposes additional modes of transition of it

[0119]  The FIG. 25 has watch which fluids can enter senses set in machines windmills of type turbinaire.

[0120]  The FIG. 26 calls back has it, windmill's walls already presented in first part. In this version, the set of the movement of pales can be constituted with several consequences of rectilinear and hooked movements, before returning in the initial position by a last rectilinear kinetics.

[0121]  Part b of the same complete figure this possibility by showing that this eventualty is also practicable in the style of a transition of type turbinaire fluids.

[0122]  The FIG. 27 shows that system will also be able to be realized by arranging the windmill in a perpendicular way in the direction of the fluid, what is shown to the part c of the figure. In this case, return in the point of departure will make also by succession of rectilinear and hooked kinetics. One will note that turbine of water can all be headed with a lid performed with air, what will cancel the friction of return of pales.

[0123]  The FIG. 28 shows has it who one can produce the location of pales with regard to the machine of an angular way that is in a position of placing halfway between the windmill with entrance of fluid by the facade, and that by the entrance of fluid by the highly-rated.

[0124]  The FIG. 29 shows that one can realize windmills in the style of jet turbines, or of expansive turbines, by producing a se of windmills arranged among them according to a terracing layers.
The FIG. 30 shows that the machine will be able to be produced with a helical kinetics to return in its point of departure in a rectilinear way.

The FIG. 31 shows that to feed more restricted devices, such vacuum cleaners, turbo compressor, ventilator of car, windmills will be able to be simplified in their realization by using pales simply connected with a single belt, and with a limit, to be realized in a single detail with this belt.

The FIG. 32 shows additional methods of support of pales.

The FIG. 33 shows that during realization of rather long machines, the additional wheels of support will be able to be added between wheels bosses.

The FIG. 34 shows different uses of windmills. Machines higher commented will be able to be used come, windmill of air and weather windmill, such as shown has it and b. They will be then changed with natural elements.

The FIG. 35 shows the relevant elements which happen when pales is arranged inside the belts of support.

The FIG. 36, has and b show that wheels intermediary can be has this enlarged point that they support simultaneously all rectilinear part of belts. They can then serve of driving wheels of the machine.

The FIG. 18 shows that a one could consequently draw one kinetics of machine or the driving wheel is more voluminous than the wheels of additional training.

The FIG. 37 shows that the one can from then on imagine that driving wheels will even be able to be arranged outside of the system. This varying is important because while protecting the couple, pales could be arranged on wheels of entrainment smaller, while activating, because driving wheels will be activated by one same belt, a driving wheel this thickness superior. The driving wheel will be able to be parallel to the belt and to the system, perpendicular, or still even on a third plan.

The FIG. 38 shows that driving wheels can be besides commanded with the wheels of entrainment.

The FIG. 39 shows has it who the machine can reunite several windmills one of wheels of which will be shared by all these. In b of the same figure, one supposes that if this wheel shared is fixed, the set will from then on be able to realize a kinetics rotationnelle. As a consequence windmills will be simultaneously the active pales of a bigger, windmill.

The FIG. 40 shows that in last analysis, pales can be replaced by magnets, this allowing to produce a new kind of generator or electric engine of which shape and specific congestion will be able to allow new uses, notably in electric motor cars.

DESCRIPTION DETAILED OF THE FIGURES

The FIG. 1 calls reminds the two types of windmill generally used in the industry. In the first case, one will say that the windmill is of frontal type, as far as the axis of rotation 1 of the helix 2 is horizontal what entrain a location of the one that is vertical. Airs, or liquids enter it so by the front 3 and are thrown rejected with the back 4. This entrain the rotation of the helix. The (FIG. 1 a) In the second case, the machine is especially used as turbine, one will say that the machine is of side type, because the axis of rotation of the pale will be generally vertical 6, and what the pale will be arranged horizontally 7. In this last case, fluids, air or water enters on the highly-rated of the pale. 8 (FIG. 1 b)

The FIG. 2 calls back the main defects of this, windmills. The frontal, windmill mainly two defects. First of all, because the air inlet is there frontal, it is evident that the maximal opening of pales can not be superior to forty five degrees 9. Crossed this degree of angle of the pale, the quantum of grip in the wind begins gradually decreasing. Then, the geometry of each of the pales entrains a reduction of surface as the pale approaches the centre of the axis of rotation 10. Pales is so reduced so generally as regards their surface of grip in the wind.

In b of the same figure, one can notice the defects of the second type of, windmill. The first of them consists of what the push of the wind always produces a positive action on one of the highly-rated 11, and one against reaction on the other one 12. It is necessary so to mask this quoted or esteemed. Second defect consists of what of the highly-rated of the positive push, each of the pales comes to mask partially the following one 13, so that the pale possessing the maximal couple is finally the pale the least exposed to the wind 14.

In FIG. 3 show a first realization of the invention. Here each of the pales 15 of a set of pales, is fixed austerely at a means such a belt 16, which belt rose, in the most simple version on two wheels of entrainment 17, which axes are at the same time arranged, these two wheels having rotations on the same plan. By realizing the machine in this way, one will note that the movement of pales, length of the wheels of entrainment produces a circular movement 18 in the extremities of the machine, but produce a rectilinear movement 19 between the two wheels of entrainment.

In the first case, it is evident that the pales of this machine will be able to be realized in their full size, because they will be able to be oblong or squared 20. Then, it is important to say that the engine torque of every pale will be for its maximum not only for all the hooked journey of their kinetics, but also for the oblong journey 21.

The FIG. 4 shows that the specific shape of this type of windmill and as one was able to notice it, the machine has an oblong speed, ended with bows, When arranged in the horizontal, this machine will offer a very weak height with regard to its width. This representation allows to use it advantageously in several places, of which notably in the collection of rivers 22. Congestion extremely limited with this windmill will allow also to arrange it on the roof of buildings without damaging the aesthetics of these 23.

The FIG. 5 shows that the good orientation of the windmill in the wind is assured with an aileron orientationnel back 24. Furthermore, a deflector 25 will be able to be arranged in the centre of the, windmill, in such a way of monopolize the maximum of go possible to redistribute it on pales, and to increase the efficiency of the windmill.

The FIG. 6 shows that the, windmill can be also arranged upright 27. This disposal will also be able to turn out of the most interesting because it this one to be added to any existing post, and consequently of numerous electric lines will be able to see adding this type of, windmill.

The FIG. 7 shows how to realize the windmill in a way that the angulation of pales can be variable, according to the strength of the wind, in such a way to avoid that this one warms as all the windmill, it is necessary to avoid that this one becomes enraged during winds violent. To manage to control grip in the wind, one will be able to use different means. The first will modify the set of windmill. For example one will be able to suspend it from a checkmate in a flexible way 28, and for example with a second deflector 29, connected with the
flexible checkmate, falling 30 sous of winds violent, to act on the angulation 31 of the windmill in the wind, in such a way to neutralize it gradually grip.

[0146] One urged also to play on the angulation of pales, in perpendicular faces more the wind 32, if one took care of connecting them with the belt of a way by allowing the simultaneous pivotement of the set of these.

[0147] The FIG. 8 shows different means which allow to reassure the resistance of each from the pales to the wind. The halving of the wheels of entrainment 33 and belts 44 will allow to realize the support of pales by a duet of belts or mechanics. Every pale will indeed be able to be connected in two points, each of these points being on each of the belts 35. Naturally tensors 36 will be able to be added to the system in such a way to assure of it the safety of functioning. Also mechanisms of adaptation of the adaptation of wheels should be added 37, in such a way to make sure of perfect adaptation of belts.

[0148] The FIG. 9 shows how one will be able to realize an illegal securement of the variable wind, according to the force, by integrating into the machine an adaptation of sails or pales. One will be able to use differences of rotation of the two sets of wheels and belts to close and to open pales to the wind.

[0149] One of the most simple mechanisms allowing this last eventuality consists in joining two secondary wheels by a belt 38 or a chaîne and to install there among these a tensor 39 having the capacity to be moved in a rectilinear way 40.

[0150] As a consequence, as the tensor will be more protruding on one or the other part of the belt, this one will be lengthened on one of its quoted, and made look smaller on the other one. By moving the tensor in the other sense, it will be the opposite part of the belt which will be lengthened, and additional part will be made look smaller. As a consequence, wheels will set, according to the position of the tensor, the advance 39 or the delay 40 the one by report the other one, what will allow to adjust the angulation of pales with regard to the strength of the wind.

[0151] The FIG. 10 shows has it how to realize a windmill with entrance of fluids laterals. Way the most simple to build a windmill with lateral entrance of fluid, is to realize it by using duo wheels of entrainment, containing this time one of it much bigger 41 than the other one 42. In b of the same figure one can see the system of the top and notice that this procedure will cancel the parallel lines of movement which one obtains, as in the windmill with frontal entrance of fluids. Indeed, in this version of the windmill, the movement of pales will make in oblique way in the system. As a consequence, if pales is arranged perpendicular way in the lines of movement, fluids will enter it in a way angule on a highly-rated 43, and by an opposite angle 44 on highly-rated inverse.

[0152] By this way of making, even though the rectilinear are not parallel, one obtains that fluid works positively on these, and it simultaneously. Push is also positive on the circular part ofocument of the smallest of the wheels of entrainment. However, pales situated on it left circular of the biggest of the wheels of entrainment 45 is in a negative position. One notes consequently in, total, a net increase of the number of pales the reach in the wind of which is positive. Furthermore, as the lateral windmill, as the windmill with frontal entrance of fluids contains rectilinear parts of the kinetics of movement, pales will be in these totally used parts, what accroît even more their reach.

[0153] As regards specifically pales situated in the hocked part of the biggest of the wheels of entrainment, it will be easy to conceive that it will be able to curl up on themselves under the opposite push of fluids, in a spontaneous way, or still in a mechanical way. 46 In this last case, encavure or melting pots 37 will be able to be practised in the wheel of entrainment, in a way that the bottom of pales rushing there, this having the effect of causing of it the withdrawal.

[0154] The FIG. 11 shows how to realize a kinetics similar to the previous windmill, this time this obtained by a game of three tones of entrainment. A version different from this type of windmill will be able to be obtained by realizing this one from three wheels of entrainment successive 50, what will give to the windmill so to speak a triangular configuration.

[0155] As first, this way of realizing the windmill with entrance of fluids lateral entraine one positive grip of these on two of the highly-rated 51 52. But contrary to the previous windmill, the negative part of the kinetics of pales will not make a bow, but rather on a rectilinear 53. For the case or pales will be fixed, they will be so all one following the others, what will reduce considerably their negative grip of fluids 54. This configuration will make easier the buckle of this part of the windmill by a deflector 55. As first, however, this one will be able to be flexible, and consequently to become perpendicular in fluids during their ascent of this one. One has to note that the windmill can be also realized in superior number of successive wheels, for example four. Such as shown in b of the figure that this version does not seem to us to produce of evident supplementary positive effects.

[0156] The FIG. 12 shows how to realize a windmill oblique, this one being able to then replace the wheels of standard water. One can indeed realize a windmill so the two wheels of training will be inclined in an oblique way with regard to the ground, and to provide belts or chains or mechanics uniting these wheels or bow fixed of vase of reception of the water. As first, these vases 54 moving on rectilinear, will begin their entrance on this one to produce the maximum of their energy and it for during their descent, while in the conventional wheels of water, the maximum of pushed is obtained only centre of the journey. It is necessary also to add them a means of seesaw of vases to allow the emptying of it, what is not necessary with windmills, of which vases are double to be connected au la active structure.

[0157] The solution of windmill of weight becomes even more interesting when one notices that one can produce it with less details. Indeed, one can simply realize one waterfall in shape of shedding of shape 55, for example oblong. One will successively make for it slide pales 56 connected with the cabling. This pales will so be able to go out by the highly-rated, or still by the height 57, loosening so the following pales. The water inserted between every pale and skid will make them come down successively, not the force of the weight.

[0158] The FIG. 13 shows how to obtain one kinetic short story of the pales of the windmill by combining two wheels of entrainment centres of which have or them axes of rotation differently angles, 60, such as shown in a) or still of which the centres of the wheels of entrainment disorientated 61 of which, such as shown in b. These two situations being able to besides be realized simultaneously.

[0159] In both cases, pales 63 will be connected with one of the wheels in a flexible way, and with a wheel, indirectly by a means, 64 so flexible. As first, the kinetics of pales will be variable in the course of the same cycle and will aim to benefit from fluids in action and to minimize or to shield completely their against reactions.
In the first example, a first wheel of entrainement will have risen rotativement on an axis of a thickness allowing that it has a hollow inside. Inside this first axis will be arranged a second axis of rotation, but of which the angle of rotation will not be the same that of the first axis. A second wheel will be connected in a stiff way with this second axis. As a consequence, the two wheels of entrainement will move on different plans. Successive pales will be connected with one of the wheels and a means such a steth, will connect them with the second wheel. As a consequence, pales will stand up 65 then of the estrangement of wheels, and will go to bed 66 during their link. The detail of link will be able to be the second part of the pale.

The FIG. 14 shows a more complex realization of the windmill, obtained with the mixture of the previous variants. Naturally more complex versions can be afterward realized, this version putting in combination the various variations of, windmills already shown.

As example, one will simultaneously be able to use two belts of the same length unitying each two wheels of entrainement of the smallest, different thickness are in front of biggest 70. Lors pales will spread in opening and in successive lock.

The FIG. 15 shows that the windmill can be also arranged vertically. The windmill has everything of abor conceived to decrease the space necessary for the implanting of a water windmill. Besides, one can easily conceive that grip in the wind will be exactly even when the windmill will be produced in, vertical disposal 75 by opposition at the horizontal disposal which we up to here showed. This position will allow of collect it around any existing post, and still there in a reduced space, to produce fairly of energy. The big networks of electric distribution are places of ideal place of windmills at vertical disposal.

The FIG. 16 shows that mechanics belt, wheels of entrainement can be inverted, and that pales 80 can be arranged on pales, in such a way to circulate on fixed stalks, and in metal bands encaves fixed 83, the shape 84 of these similar being fixed parts in the kinetics of the pales which one hears realizing.

The FIG. 17 shows various application of the windmill proposed to the present invention. The present machine can realize various application, or, as we let us have already seen it mainly of that of windmill of air. The other relevant applications of the machine can be made, as for example, that of propeller 86, pump 87, vacuum cleaner, vacuum, et cetera.

In so much propeller, the machine will be able to be arranged in wings plane, one else in one pedal-water. As pump it will be able to serve of turbo compressor, or of vacuum, in engines.

Besides, the machine to be can be consisted of successive machine assembled not the only one, divided into halves.

The FIG. 18 shows that one can lengthen the width of the windmill by prolonging the rectilinear part of its movement. This is practicable by adding wheels of entrainement intermediaries 90 between the terminal wheels of training. Besides, several windmills can be arranged successively.

The FIG. 19 shows that one can insert inside a central body of a machine, several successive windmills.

The FIG. 20 calls remind the functioning of the conventional, windmills and their main gaps, which will be corrected with the energy windmills. In the conventional windmill, pales 101 turns generally in a way rotationnelle around a central axis 102. According to this way of making, one can notice the two main characteristics of the pales of these machines. First of all the geometrical shape of these is invariably triangular 103. Secondly, always by getting closer to the centre, one notices that the beam 104 of the decreasing pale, the movement of this one decreases simultaneously. The pale, this time for reasons of speed of movement, accepts so less and less fluid as one approaches the centre of rotation of these. The conventional windmill is so extremely limited, because they work mainly only on their extremities. The increase of their production of energy believes only with the increase of their dimension.

The FIG. 21 calls reminds the main configuration of the windmills of type windmill.

In the most simple version, windmills are realized from two wheels of entrainement 105 connected among them by belts 106, these supporting belts pales1, one would allow the pales to realize alternately rectilinear movements 1066 and curved 1077. It is the rectilinear part of these kinetics which will have mainly a mechanical interest. Indeed, one can, from this kinetics of movement to create pales shape of which will be either triangular, but rather oblong 1088, and which consequently will multiply by two the surface of acceptance of fluids. The second important quality which will allow to obtain this type of kinetics of movement of pales, will be that the speed of grip in the wind will be identical in all the portions of the pale 109, that they are moved closer or taken away from the centre of rotation. Consequently even parts enlarged with the pale will produce an effort identical to original parts.

The FIG. 22 calls reminds different versions of these machines, for example parallel wheels angles 22 a) has, or still in entrance of fluid of type turbine to 22 b. We also showed different positions of machines, horizontal or vertical 22 c, and structures of supports more mechanical pales, for example by movement on rails, in 23 d.

The FIG. 23 shows that brought back them of force of pales can be established according to their position in the cycle of the kinetics, on one hand, and on the other hand according to their outside or internal position will have the belt or in mock of entrainement. Indeed, one will notice that when pales is arranged outside of belts 110, the speed of movement of the extremity of the pale 111 will increase during its situation will be in the hooked part 112 of the kinetics. The pale will have so, in this phase, if it is outside of belts, an effort and a return superior to pales situated in the rectilinear part of the kinetics 113.

Besides, on the contrary, if pales is arranged inside belts or inside rail of support 114, one notices on one hand that their return is identical the one them to produced when they were situated outside of belt 115. But, besides, as regards the comparison of their return in rectilinear position with regard to their return in hooked position. One will notice that the speed of movement of pales, during their passage in the bows of the kinetics will be reduced 116 what entraînera a decrease of the grip in the wind, and consequently the production of energy. In this type of assembly, pales in position of rectilin-ear kinetics will produce consequently a bigger return, and it by decreasing considerably thickness and congestion of the machine.

Besides a disposal shared with pales, outside and inside belts 117 will have the effect of creasing, while keeping notices energy creates in phases rectilinéar, to share pales in position curved in two opposite portion, a producing more
energy and the other one by producing less, the total of two left being equivalent to that of the pales in position of rectilinear kinetics. This type of machine will be applicable in all the situations.

[0177] The FIG. 24 call back modes transition of fluids in the windmill and proposes additional modes of transition of it. In our first part, we mainly showed two modes of traffic of fluids in machines, is type, oilen, and type turbinque. In the type windmill, fluids, liquid or by air, penetrate by the front of the machine and ressortent by the back, in the way, the conventional windmills. This is shown in 23 a has.

[0178] In the type turbinque, shown in 24 b, fluids, air or liquid, enter by the highly-rated of the machine susceptibility of which is positive, while the highly-rated susceptibility of which is negative are masked. Indeed, we showed that when machines windmills were realized in a way turbinque, one could produce them or with one of the wheels much bigger than the other one, or with three piece of support, what in both cases produced two positive rectilinear parts, and third part, rectilinear or hooked negative, and weakened.

[0179] In the FIG. 24 c, we show that an orientation of grip in the wind, produced with an angulation of the directional tail, allows to produce the windmill in a way that one of the rectilinear sections of pales is in right-hand side line with the wind 118. Consequently this one will practically have no effect in this section. This enters a perpendicualisation of pales with regard to the wind of the additional part 119. The pales of this section will be consequently totally opened, in the style of the veils of one to veil with rear wind. This disposal will be effective by time in which the wind is weak but constant.

[0180] The FIG. 25 has watch which fluids, can enter sensesset in machines windmills of type turbinque. As we have already mentioned it, machine of type turbinque work positively only on one of the highly-rated, this being increased for two quoted on three in windmills. One can however imagine two transitions in opposite sense in these 120, in such a way to pull some positive energy for each of the highly-rated. This type of disposal will be less effective in natural transitions, such the wind, or stream. But in turbines, or the entrances of water are artificial, this disposal will be completely practicable. One can imagine easily two ways of entrance to opposite direction of the windmill, and two exits in opposite sense,

[0181] In b of the same figure, one shows that the entered of fluids will make outside 121, and exit in the centre of the machine 122. Conversely, between fluid can make inside the kinetics of pales 123 and the exit outside 124.

[0182] The FIG. 26 calls back it, walls windmill already presented in first part. In this version, the set of the movement of pales can be established with several consequences of rectilinear movements 125 and curved 126, before returning in the initial position by a last rectilinear kinetics 127.

[0183] Part b of the same complete figure this possibility by showing that this eventuality is also practicable in the style of a transition of type turbinque fluids. As first, it will be a question of succeeding, the continuation some of the others this time, in the direction of the movement of the fluid, alternately several rectilinear kinetics 125 and curved 26 to return in the point of departure. The interest of such a wall windmill, used in the water consists in minimizing the impact of return of pales, because this part 127, little blocking will be able to, besides to be easily to be headed with a lid 128 capable of keeping air. The movement of return of pales will make so without any resistance.

[0184] System will also be able to be realized by arranging the windmill in a perpendicular way in the direction of the fluid, what is shown to the part e of the figure. In this case, return in the point of departure will make also by succession of rectilinear and hooked kinetics. One will note that turbine of water can all be headed with a lid performed with air, what will cancel the friction of return of pales.

[0185] The FIG. 27 shows has it who one can produce the location of pales with regard to the machine of a way angul, e, that is in a position of placing halfway between the windmill with entrance of fluid by the facade, and that by the entrance of fluid by the highly-rated. Machines of type angular windmill. To realize this type of machines, one will be able to support pales by two sets of wheels 129, 130, however here different thickness. Pales will have so an angular position, 131 with regard to the set of the system. Fluids will so be able to be sucked up partially with the front 131 and pushed away in the centre, in the style of a turbine 132.

[0186] The FIG. 28 shows that one can realize windmills in the style of jet turbins, or of expansive turbins, by producing a set of windmills arranged among them according to a terracing coats 133. According to the sense of entrance or exit of fluids, one will realize one compression of these 134, or an expansion of these 135. In the first case, fluids shall leave outside and will cross coats windmill towards the centre and should the opposite occur, gases under pressure will leave of the centre and will produce an expansion towards the outside.

[0187] The FIG. 29 shows that the machine will be able to be produced with a helical kinetics ave to return in its point of departure in a rectilinear way 135.

[0188] The FIG. 30 that to feed more restricted devices, such vacuum cleaners, turbo compressor, ventilator of car, windmills will be able to be simplified in their realization by using pales 136 simply connected with a single belt 137, and with a limit, to be realized in a single detail with this belt.

[0189] The FIG. 31 shows additional methods of support of pales. In the previous versions of machines, wheels were arranged on the same tree, what assured them one rotation of identical speed. One can however realize machines with independent wheels among it. From then on belts will be maintained in similar movement by support in s, 138 or still there x, 139. Particularly in this way, one will notice that wheels synchronize exactly as if they shared a common axle. Their pales will afterward be able to be connected with these brooches arranged in x, 140.

[0190] The FIG. 32 shows that during realization of rather long machines, the additional wheels of support 141 will be able to be added between wheels bosses.

[0191] The FIG. 33 shows different uses of windmills. Machines higher commented will be able to be used come windmill of air and, windmill of water, such as shown has it and b. They will be then changed with natural elements.

[0192] But they will also be able to be activated with elements or forces of artificial nature. They will be able to be consequently activated mechanically by a some hape of motorization. In this case, they will be able to be used as ventilator of ceiling in 33c, vacuum cleaner 33d, pumps of turbo compressor 33 e, turbine with water of electric dam 33 f, jet turbine, of boat 33g, ventilator of radiator of car 33 h or the other machine, the turbine of nuclear power station 33 i,
pumps in water of filter 33/ et cetera, propeller of boat 33 j, of plane of helicopter 33 k, internal pump of jet engine, pumps with gas et cetera.

[0193] The FIG. 34 shows the relevant elements which happen when pales is arranged inside the belts of support. Mainly, by opposition in what arrives when pales is situated outside, the pales of hooked parts decreases in speed in their extremities internes, and keep the same in their external extremities. As a consequence, they hide themselves and lose of the surface of illegal securment, on one hand, and on the other hand, they decrease in half their couple with regard to pales situated in the rectilinear parts of the global kinetics.

[0194] The FIG. 35. has a and b show that wheels intermediary can be has this enlarged point that they support simultaneously all rectilinear part of belts. They can then serve of driving wheels of the machine. One will note that from then on all the pales acts as if they had the beam of this driving wheel as beam of shooting. Even though they are in the reduced rectilinear parts of the kinetics.

[0195] The FIG. 36 shows that one could consequently draw a kinetics of machine or the driving wheel is more voluminous than the wheels of additional training.

[0196] The FIG. 37 shows that the one can from then on imagine that driving wheels will even be able to be arranged outside of the system. This varying is important because while protecting the couple, pales could be arranged on wheels of entraînement smaller, while activating, because driving wheels will be activated with the same belt, the driving wheel this superior thickness. The driving wheel will be able to be parallel to the belt, has it and in the system, perpendicular, such as shown in b, or still even on a third plan, such as shown in c

[0197] The FIG. 38 shows that driving wheels can be besides commanded with the wheels of entraînement.

[0198] The FIG. 39 shows how the machine can gather several windmills of which one of the wheels will be shared by all these. 150 In b of the same figure, one supposes that if this wheel shared is fixed, the set will from then on be able to realize a kinetics rotationnelle, similar to that of one conventional, windmill. As a consequence windmills will be simultaneously the active pales of a bigger, windmill.

[0199] The FIG. 40 shows that in last analysis, pales can be replaced by pump, this allowing to produce a new kind of generator or electric engine of which shape and specific conduction will be able to allow new uses, notably in electric motor cars.

1. A machine being able to be used as, windmill in air, in water, as pump, vacuum, vacuum cleaner, propeller with air or with water, this machine being characterized by the fact that the pales of machines is connected directly or indirectly with two different driving structures and mechanically coordinated among them, this entrain this pales to describe, for each of their cycle, a continuation of two alternate movements or more repeating in each of the cycles of the machine, the most elementary version of the machine being realized by a classification understanding in composition:

   Pales of the machine, this pales being installed on a means of support such a belt, a chain, wheels of support and stiff frame of support,

   A means of support of pales, such a belt, a chain, this belt or this chain having risen on two wheels of entraînement, what allows it simultaneously synchronization.

   Two wheels of entraînement axes of rotation of which are parallel, these wheels being aligned the one towards the other one preferably by mechanical means, these wheels containing preferably tensors allowing to bandage the belt or the chain of support of pales

   These wheels of entraînement being, when the machine is used to obtain from it a return, connected with a driving element such a generator, an engine, a pedal, the movement of pales making then during the rotation of the wheels of entraînement and of the movement of the belt or the chain in an alternately rectilinear movement, and hooked, this rectilinear movement occurring between the two wheels of training, and this movement curved occurring when pale follows the wheels of training.

   2. A machine such as described in 1, of whom the two wheels of entraînement are of thickness different, this machine being able to then be inclined in such a way to receive fluids laterally on the surface of pales, this machine being able to besides have the capacity to fold up, with or without mechanics pales when they are in position r, actionnelle negative in the entrance of fluids.

   3. A machine such as described in 1, of whom the two wheels of entraînement are among three or more, this machine being able to then be inclined in such a way to receive fluids laterally on the surface of pales, this machine being able to besides have the capacity to fold up, with or without mechanics pales when they are in position r, actionnelle negative in the entrance of fluids.

   4. A machine such as described in 1, to whom one added, between the wheels of entraînement terminal, wheels of intermediate support, this having the effect of being able to widen the machine without increasing by it height, this entraînant a greater performance of the machine.

   5. A machine such as described in 1, of whom the wheels of training and the belt or the chain are divided into halves, pales being then connected simultaneously in two points, each being situated on each of the belts or chains.

   6. A machine such as defined in 1 and 2, on whom one added means mechanics of adaptation of the tension of either belts and or chains, and of adaptation of wheels.

   7. A machine such as described in 1, 2, and 3, in whom one added an aileron of orientation to the wind

   8. A machine such as defined in 12 or 3, to whom one added a deflector allowing to concentrate fluid on pales.

   9. A machine such as described in 1, of which the wheels of entraînement from which axes of rotation are different, this being preferably obtained when:

      The first wheel of entraînement has an axis of rotation of which the centre is extrud,

      The second wheel of training has its axis of rotation inserted in 1. interior of this extrusion, this axis of rotation of the second wheel of being training angul, with regard to that of the first wheel,

      The pales of the machine being realized in two part connected among them and each of them Being simultaneously connected with one of two wheels of entraînement, link and alternate estrangement of the wheels of entraînement entraîné a folding or one unfolding of structures pâliens allowing an increase of the grip fluids in positive parts, of the cycle, and decrease of the grip in fluids in the negative parts of the cycle.

   10. A machine such as defined in 1, whose general movement of pales is perpendicular on the ground, alternately rising and downward

   11. A machine such as defined in 10. Of whom pales is oblique on the ground, this pales being inserted in the course
of descent into a skid of similar lateral shape, this machine being then used as wheel of rectilinear water.

12. A machine such described in 11, pales of which is realized under the shape of boiler, the machine not requiring then skid of water.

13. A machine such as defined in 1, in whom was added a mechanism entrant in the automatic adaptation of the angulation of pales to the wind, these mechanics being able to mainly but not restrictiveness be realized according to one or other of manners following one:

Every pale rose in a way revolving on its support, and this pivotement rose with a spring, which relays according to the strength of the wind and entrainment the die angulation of the pale.

The set of pales has two points of support, of which the one is prickling, the second being commanded by a structure motives under the push of the wind.

The windmill rose in a mobile way known the axis of central support of this one, and a deflector, or the other means, for example electric, provided with a means of connecting in the windmill entrainer the general angulation of the windmill in the wind, in the measure of the increase exaggerated by the force of these,

14. Lime hatch such as defined in 1, of whom the means of support is a metal rod containing preferably a melting pot, this metal rod having its most simple shape when it is alternately consisted of rectilinear and of bow, this being shape consequently similar to that of the windmill of base, each of the pales being provided with wheels of entrainment inserted in melting pot of the main member of support, each of the pales being preferably inter connected with the previous one and with the following one in such a way to establish a set palisque.

15. A machine such as defined in 14, whose member of central support receives by bottom and by top the wheels of entrainment from each of pales, whose two have below and one above, or opposite, more thick being member in bow, in such a way to keep the wheels of support of pales always stuck on the member of central support, these element being able to besides be divided into halves, in such a way to assure a lateral resistance in fluids, water or wind.

16. One machine such as defined in 19 and 13, used as, windmill of air, water, pump, vacuum, propeller, vacuum cleaner.

17. A set of machines such as defined in arranged 1 the some following the other one and preferably in the cavity of a part serving of base, this cavity being realized so as to one cross the drainage of fluids.

18. A machine, understanding two parallel sets of two aligned wheels, each of these set receiving a belt, and pales being arranged on these belts, in a way that totality or a part of this pales is situated inside the figure which describes each of the belts, the whole having risen on a support.

19. A machine such as described in 1, of whom the means of support of pales is together of rails shape of which is similar to that of the belts, each of the pales being provided with wheels integrated into rails, and possessing a means of connection with the previous and following pales.

20. A machine such as described in 1 and 2, of whom them whose pales is supported with a single belt, or a single rail

21. A machine such as described in 1, 2 or 3, whose fluids enter by the highly-rated and ressortent by the centre, this possessing machine directional means of determination of the entrance and the exit of fluids.

22. A machine such as described in 1, 2 or 3, of whom fluids enters by the centre and goes out by the highly-rated, this possessing machine directional means of determination of the entrance and the exit of fluids.

23. A machine such as described in 1, 2 and 3, whose fluids enter by the highly-rated relative in movement rectilinear of pales and ressortent by those concerning movement curved. This possessing machine directional means of determination of the entrance and the exit of fluids.

24. A machine such as described in 1, 2 and 3, understanding in composition some being stacked with machine, these being set smaller going away towards the centre and bigger towards the outside, this machine allowing so to concentrate fluids or to dilate them, according to the sense of their entrance and their exit.

25. A machine such as described in 1, 2 or 3, whose belts are connected among them by stalks of link arranged in x or in z, pales being preferably arranged on these sets of stalks herself:

26. A machine, such as described in 1, 2 or 3, but by whom the number of rectilinear movement and curved is increased, and of whom the sense of the drainage of fluids penetrating into the machine is similar to the sense of the length the machine.

27. A machine such as described in 1, 2 or 3, whose superior part is headed with an immersed lid, but filled with air.

28. A machine such as described in 1, 2 or 3, of whom the adaptation of the tail of oar with regard to the machine st variable, in such a way of to increase the opening of pales on one of quoted (esteemed).

29. A machine such as described in 1, 2 or 3, have the two sets of wheels are of thicknesses different, this entrainment belts of various length and angle of pales turns with regard to the positions of entrance of fluids either frontal, or horizontal.

30. A machine such as described in 1, 2, or 3, this machine being used as compressor, ventilator, vacuum cleaner, pump, jet turbine, windmill of air windmill of water, propeller with water, propeller with air, turbine of expansion.

31. A machine such as defined in 1, 2, or 3, whose pales is situated partially or altogether inside the kinetics realized with the belt or the bow of support of the machine.

32. A machine such as defined in 1, 2 or 3, whose wheels intermediary can be has this enlarged point that they support simultaneously all rectilinear part of belts They can then serve of driving wheels of the machine One will note that from then on all the pales acts as if they had the beam of this driving wheel as beam of shooting. Even though they are in the reduced rectilinear parts of the kinetics.

33. A machine such as described in 1, 2, or of 3 whom (which) the kinetics of machine or the driving wheel are more voluminous than the wheels of additional training.

34. A machine such as defined in 1, 2, or 3, whose driving wheels will be able to be arranged outside of the system. But press it on one of the belts.

35. A machine such as defined in 1, 2, or 3, of whom driving wheels can be besides commanded with the wheels of entrainment.

36. A machine such as defined in 1, 2, or 3, gathering several windmills of which one of the wheels will be shared by all these.

37. A machine tell that d, fniicie in 18, of who the wheel shared is fixed, the set of the structure which forms windmills
will from then on be able to realize a kinetics rotationnelle, similar to that of one conventional, windmill.

40. A machine, such as described in 1, 2, or 3, whose poles was replaced by magnets, this machine being able to loss to be realized under the shape of an electric engine or a generator, whose movement of parts is alternately curved and rectilinear.

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