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(54) Title: STRUCTURE FOR THE ELECTRICAL ENERGY PRODUCTION FED BY SUN AND WIND SOURCE CALLED SUN TURBINE TREELUX (TST)

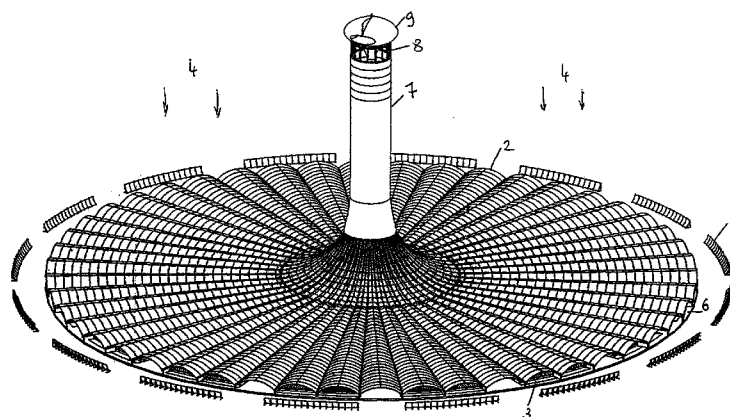


FIG. 1

(57) Abstract: Technology sector: the present invention refers to an engineer structure for the production of electrical energy by renewable sources like wind and sun due to the striking of currents of airs which move inside a room which is controlled from the lower part to the higher one because of the difference of the air pressure which is created artificially and by the utilization of the heat induced by the sun radiation on thermoelectric organs bodies which can convert the heat in electric energy by the current of air which circulates inside the same controlled room.



1 Patent description for the industrial invention with title: structure for the electrical energy production fed by sun and wind source, called Sun Turbine Treelux (TST)

State of the art.

At the state of the art, there are some power stations, called Sun Towers (US4275309 and a
5 Canadian patent no. 1023564), patented by Lucier Robert characterized by a greenhouse, covered by glass or plastic, which covers a wide country area and which collects the sun energy and a cylindric tower, built in the middle, where the heated air is carried through some conic pipes, built under the mentioned area: the air, by going through the pipes, is suck up into the cylindric tower, it grows its speed thanks to the difference of pressure. Before the
10 opening of the cylindric tower, there are some turbines, which generates electric energy.

In the same branch of the art, the same tower was implemented by cunnings which made it flexible thanks to the use, in its building, of light materials and which adapts to the flux of the air. We are talking about the patent no. WO 2004 036039 which is relating to an improving of the sun towers (or sun chimneys) for the generation of energy, characterized by the fact

15 that it can be built with low costs and with the use of light materials. The towers of the present invention substantially stand up principally because of the inclusion of a gas lighter than the air in the structure, or in a room fixed at the structure. The sun towers of the present invention can then be built at high heights. In cases of use of flexible materials, the structure can bend according to the force of the wind. The capacity to bend considers the growth of the normal
20 flux of air through the tower by using the wind and the natural negative pressure which develops in the high part of the tower. The invention also gives methods for the production of energy by using the described towers.

The structure for the production of electric energy has got an accumulator of thermic energy fed by direct and in direct sun irradiation with mirrors and by a chimney tower which lets the
25 striking of the currents of the air, because of such difference of density and pressure, it is transformed in electric energy by a system of turbines, placed at the basis of the structure, by having aerodynamic traits which can pick up the wind kinetic energy which is artificially produced. The induced current of air also constitutes a vehicle to extract heat from the thermo electrical material which generates electrical current by the heat flux which goes

30 through it. The power station collects thermic energy from the sun radiation which is both direct and concentrated by mirrors. The movement of the currents of air are also induced by sucking turbines placed on top of the tower and placed in movement by the wind kinetic force. The power station exploits, by district heating, the remaining heat produced by other thermic power stations to generate more flux of warm air and transmits more heat to the

35 thermo-electrical material.

The present invention, is placed in the above mentioned sector of the technics and it refers to three innovative elements, which let to obtain a major production of electrical energy.

Technical problems

At the state of art there is not the presence of a chimney on top of the tower which improve
40 the natural effect Venturi and of suck of the air from the lower part to the higher one. The functioning of the invention can be improved thanks to the use of the water for a continue heating of the basis air with the accumulation of the sun energy. The system of accumulation of basis is studied so that the perimetrical piping is placed in the convergent of the sun radiation transmitted by concave mirrors placed in a radial way at the basis of the tower. The
45 turbines are studied to improve on top the production of energy. The current of hot air generated by the structure is usually sent to the geometric centre of the structure with the consequence to create turbulences with damage of the production of energy. In the invention, object of the present patent request, two concentric towers are used to increase the production of electrical energy and, always for the same cause, some thermo electrical materials are used
50 (cells Peltier-Seebeck) which can transform directly the heat, which goes through them, into electrical energy. The used cells are made of semiconductor thermo electrical materials; i.e. the heat, which goes through them, generates to the tops a difference of electrical potential. The difference of potential which is generated in the thermo electrical generator is the consequence of the heat which is extracted from the current of air above mentioned by heat
55 squanderers which have such traits and dimensions to let the greatest heat dissipation. More heat flux goes through a semiconductor material from the hot face to the cold one and more electrical energy is generated on the two tops of the same face.

Solution of the technical problem.

The sun radiation which bears on the radiant surface is transformed into thermic energy and is
60 utilized both under the aspects of thermo dynamic phenomena induced by the convective motion of the air and by the effect of some thermo electrical materials (cells Peltier-Seebeck) which can directly transform the heat into electricity . The whole circular surface of the structure is divided in sixteen circular devices; in any sector is inserted a picking up and/or radiant surface with more autonomous thermo electrical generators assembled one after the
65 other to build more rows placed in the direction of movement of the air.

On two third parts of the picking up surface of basis are inserted the downflow rows of the air composed of more thermo electrical generators. Every elementary and/or modular thermo-generator is composed of a metallic plate with a thickness which is variable from 0,5 to 1 cm whose transverse section has a shape of paraboloid. The system is like a "sandwich"

70 with an external metallic hot plate (heated by the sun radiation) then with thermo electrical material (cells Peltier-Seebeck) connected to a dispersing body – cold surface – made of aluminium. Substantially the hot surface of the cell is in touch with the hot metallic plate, while the other face of the cell is connected with a dispersing surface in aluminium. The heat generated by the sun radiation on the metallic body during the going through the face of the
75 cell Peltier-Seebeck generates some electric currents with low voltage in consequence of the air flux which, by wrapping the aluminium dispersing material and it extracts the heat by maintaining a difference of temperature on the two hot-cold faces of the thermo electrical generator. The difference of temperature created and maintained by the circulating current of air guarantees the circulation of the heat flux because it guarantees a difference of temperature
80 between the two faces generally of circa 60 degrees Celsius. The electrical current produces by the cells Peltier-Seebeck is sent into transformers to be able to be raised and then utilized. The current of air which circulates in the thermodynamic room guarantees the cooling of the thermo electrical plate and the remaining heat is dissipated with the threads of air which wrap the fins by going through the whole sector of the radiant plate till to direct to the turbines.
85 Substantially the heat flux, by the device of the metallic plate, in the cell -Peltier-Seebeck from the hot side, composed of the metallic plate directly heated by the sun radiation, to the cold side composed of the dissipating aluminium body, generates in the semiconductor material an electrical current which can be utilized.

In the circular sector , i.e. in the thermodynamic room, for the so called greenhouse effect,
90 thermodynamic phenomena of movement of the hot air are created, to the high part which is canalized by following a vertical path. Each sector is built to let the air to connect to the one coming from all the other sectors just in the vertical part of the chimney without creating turbulences and vortexes . Each sector is separated by septa of plastic material fixed according to the radial direction of the pillars which hold the cover. Each fluid thread of air
95 which is created follows an independent path sector by sector . The fluid threads, which creates at the basis, cool the thermo electrical generators placed on the radiant surface of basis. The thermo electrical generators, to work, must be inserted in a highly windy and dissipating area. The thermic energy, partially transformed into electrical energy, is always given back in the thermodynamic room. In the vertical part of the chimney all the fluid
100 threads of air, which have already a connected trajectory are planned vertically. In each sector at circa 1/3 of the ray a turbine with high production is placed, which intercepts the fluid threads of the air which has already had the due acceleration.

The threads of air coming from the vertical chimney represent the result of the fluid threads of the single circular sectors, they in part are expelled from the top of the tower, parts are

105 intercepted by the venturi system with forced circulation placed on the top of the tower, but with entrance of the air outlet at $\frac{1}{4}$ of the height of the tower. In fact the drip in pressure, which creates on top, contributes to the forced sucking, by a turbine, of the first fluid threads of air which generate at the basis of the tower. I.e. there is the so called forced sucking of a part of the air so to increase the speeds of basis.

110 However the simple green house effect created at the basis is not sufficient to transfer to the mass of air the thermic energy necessary to keep in movement with its own convective motions. The idea is to transfer more possible energy to the air both during the day and during the night by utilizing the properties of the black bodies to absorb thermic energy . The kinetic energy of the air will be useful on one hand to let the turbine to wok with high

155 production and on the other hand to extract heat from the thermo electrical generator; more heat is extracted, more efficient will be the thermo electrical system because the same movement of the air will be the motor of the turbines. Because of the fact that part of this thermic energy is transferred to the air to trigger off the thermom electrical phenomena, at the

120 basis a radial system of piping is created and is full of water and completely covered on top with a layer of plate painted in black with metallic fins placed according to the aerodynamic flux which was created. The metallic fins increase the surface of thermic exchange in entrance and outlet transmitted by the sun radiation. The simulated effect is surely similar to the one created on the planet, the sun heats the sea which gives back heat to the air by generating

125 notable convective motions. Of the sun heat bearing on the transparent surface circa the 12% is reflected while the 88%, (circa 880 W/mq) are transferred inside the thermodynamic room where the picking up metallic surface with the accumulation tank is placed to be able to be given back both during the night and to the whole room to create convective motions of reascending of the hot air. The accumulated heat from the metallic picking up surface is then

130 transferred to the thermo electrical generator placed on the same metallic surface.

The energetic increasing on the radiant system is increased by mirror placed along the perimeter of the structure with concentrated reflection of the sun energy on the whole picking up surface of the external piping encapsuled in a transparent room in pirex glass.

Description.

135 The engineer considered structure is called "SUN TURBINE TREELUX" or briefly "TST" and it is essentially built by a thermodynamic primary room (Fig. 14, n.1) with a transparent cover in thermoplastic fluorine polymeric composed by ethylene-tetra fluorine ethylene thickness 0,2 mm (Fig. 1, fig.4, fig.5, fig.7, fig.14, fig.34, n.2) as well as by sun picking up devices (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n.

140 3) on the floor able to accumulate the sun energy irradiated (Fig. 1, fig.14, fig.35, n. 4)

directly by the transparent cover (Fig. 1, fig.4, fig.5, fig.7, fig.14, fig.34, n.2) and the sun concentrated indirect radiation which comes from mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) placed suitably tilted, along the perimetrical circumference of the device. The sun radiation which bears on the concave mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) concentrates the sun energy on the perimetrical piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) of the sun picking up devices (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) or black bodies which accumulate energy composed by steel piping full of water climbed from the ground floor built with pavement made of lavic stone; the external perimetrical piping interested by the energy collected by the mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) is suitably encapsuled by pirex transparent glass (Fig.11, fig.32, fig.33, fig.35, fig.36, n.37). The sun rays coming from the concave mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) and concentrated on the piping generate high temperatures of 300 degrees Celsius in the room (Fig.32, fig.35, n.38) so that the thermic energy, which is produced, is taken by the radiant system (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) and then accumulated by the water in the piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) and in the connected tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) to be given back to the system.

On the black metallic picking up surface (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) autonomous thermo electrical generators are installed (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) with metallic hot face placed inside the thermodynamic room (Fig. 14, n.1) so that to be invested by the direct sun radiation which goes through the transparent cover (Fig. 1, fig.4, fig.5, fig.7, fig.14, fig.34, n.2) as well as to be fixed and thermically connected to the radiant surface (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n.3) . The thermo-electrical generator is cooled by the circulating air which is inside the thermodynamic room (Fig. 14, n.1), the heat exchange is by the aluminium radiant surface (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32). The thermo-electrical material composed by cells "Peltier-Seebeck" (Fig.27, fig.28, fig.29, fig.30, n.33) is interposed between the metallic plate (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) or thermo-electrical generator and the radiant aluminium surface (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32). The module of the thermo electrical generator is

essentially composed by a metallic hot plate with conic section and with internal surface which is interfaced with the surface of the aluminium squanderer (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32) , between the two surfaces the cells Peltier-Seebeck are electrically
 180 interposed and connected till to built a thermo electrical autonomous modular generator. In the considered machine different thermo generators are placed in series, one after the other, till to build some rows, till to occupy 2/3 of the radiant or picking up surface (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3); such connection lets to generate some differences of potential which are significant and then usable. The
 185 height of the thermo electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) is almost the 0,5% of the diameter of the tower .

In the thermodynamic room (Fig. 14, n.1) the convective motions of the existing air and of the one which enters from the side openings envelop because of the effect of the sun energy
 190 (Fig.1, n.6). The hot air acquires kinetic energy, the speed of the air flux , for each sector, is sent by some modular convectors (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34, n.17) on the turbines suitably planned with high efficiency (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12). Each sector is delimited by vertical transparent surfaces (Fig.6, n.39) fixed with suitable metallic frameworks to the vertical
 195 pillars which bear the cover of the surface (Fig. 1, fig.4, fig.5, fig.7, fig.14, fig.34, n.2). The hot air produced, in part given back by the radiant system, goes to the top sent by a tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7). The primary thermodynamic motor of the system envelops for difference of density and then of pressure of the air which is generated at the beginning (Fig.1, n.6) and on the top of the tower (Fig.1,
 200 fig.14, fig.18, fig.19, fig.20, fig.21, fig.22, n.8); the energetic system of thermic radial accumulation (Fig.1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35,n.3) with water tanker lets the thermic energy accumulated to be gradually transferred to the air. The thermodynamic motor is so evident that more sun energy is stored in the thermodynamic room (Fig. 14, n.1). The natural "draught" is primarily function of the height
 205 of the tower and the difference of temperature between the inside air of the thermodynamic room (Fig. 14, n.1) and the one of the external room (Fig.1, fig.14, fig.18, fig.19, fig.20, fig.21, fig.22, n.8) where it goes out; better then, from the difference of density between the hot air inside and the external one. In fact, more air is heated, lighter it becomes, in a easier way the air will climb along the chimney tower. The increasing of the temperature at the
 210 thermodynamic room (Fig. 14, n.1) will be obtained by transferring other supplementary sun energy by the concentrating of radiation by mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8,

fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) for each section. The sun collectors (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) can also be connected with other devices of generation of remaining heat .

- 215 The air which climbs because the effect of the difference of density is also sucked by the vertical turbines (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) placed in the device on top (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) of the tower. Inside the Tower, as it is described, is built a second tower (Fig.5, fig.14, fig.18, fig.22, n.11) which increases the effect forced sucking.
- 220 The external air which goes into the mouth of the structure (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9), placed on the top of the tower, increases the speed in the narrow section of the chimney of the inside tower (Fig.18, fig.19, n.10), the air flux at high speed which is generated imposes a strong rotation to the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19) connected in axis to three vertical turbines placed under the same, so to
- 225 build a sucking motor of the air fins which are intercepted by the secondary tower (Fig.5, fig.14, fig.18, fig.22, n.11) . The whole system does like an effect of dragging i.e. of “sucking” of the internal air coming from the lower part by a second tower (Fig.5, fig.14, fig.18, fig.22, n.11) placed inside the primary tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7). The opening of outlet (26) of the secondary tower (Fig.5,
- 230 fig.14, fig.18, fig.22, n.11) is placed close to the cone of downflow (27) at $\frac{1}{4}$ of the total height of the tower. The shell placed on the tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7) is essentially composed by an external shell (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9), with ovoid shape anyway so that it does not suffer from the wind aerodynamic forces, and an inside conduct (Fig.18, fig.19, n.10) with
- 235 shape and dimension to simulate a real wind gallery with an opening according to the direction of the wind and the other of going out of the air. The rudder of drift (Fig.14, fig.18, fig.20, n.20) placed on the top of the shell lets the movement of the whole structure by putting the primary opening in the direction of the wind so to let then the entrance of the air in the primary opening. A station which measures the wind of control (Fig.14, fig.18, n.28) lets to
- 240 control the external wind parameters at the top of the tower. On top the air has already a considerable speed which in fact will have an ulterior increasing in the conduct inside the shell where the section has a notable reduction (of $\frac{1}{3}$ as regards the section of entrance) and then with a considerable increasing of the speed of the wind in the conduct (Fig.18, fig.19, n.10) so to generate the movement of the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19)
- 245 and then of the vertical turbines (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18). The rotatory movement (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9),

according to the direction of the wind, is notably facilitated by a device with magnetic levitation (Fig.14, fig.23, n.21) in a radial way placed, obtained with the positioning of permanent magnets fixed on the fix support of the tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, 250 fig.7, fig.12, fig.14, fig.32, n.7) and opposed for polarity with other magnets fixed on the mobile part of the shell (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) . The number of the magnets is directly proportional to the diameter and the weight of the structure, by considering that the whole shell is built in fibreglass fixed to a steel framework.

The parameter which influence the working of the device are height and internal density of 255 the existing air between the basis on the floor (Fig.1, n.6) and the opening of the chimney (Fig.1, fig.14, fig.18, fig.19, fig.20, fig.21, fig.22, n.8) substantially with the difference of pressure between the two entrances. For the effect of the heating transmitted by the bearing sun radiation (Fig. 1, fig.14, fig.35, n. 4) the kinetic energy increases of the air present in the thermodynamic room (Fig. 14, n.1) by creating ascensional current of air at high speed which 260 is sent to sixteen turbines at high efficiency. This same movement of the air, full of kinetic energy, constitutes the primary and essential to extract heat from the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) by the squanderer (Fig.2, fig.3, fig.5, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.34, n.23) and to let then the production of 265 electrical energy without ulterior mechanic parts in movement. And so whether the machine has in maintenance one or more turbines, there is always electrical production by thermo-electrical generators.

The increasing of the temperature of the air in the thermodynamic room (Fig. 14, n.1) will be obtained by transferring on the structure (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, 270 fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) or a black body other sun supplementary energy by the concentration of sun radiation with mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) for each section or sector placed along the circular perimeter of the basis of the tower. The sun radiation concentrated is exclusively sent to the external piping of the radiant platform (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, 275 fig.16, fig.32, fig.33, fig.34, fig.35, n. 3). All the steel platforms (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) placed at the basis of the tower are full of water which are heated for the effect of the sun radiation. The piping are connected with some water tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) placed in the triangular space between each modular truncated-conic element (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, 280 fig.15, fig.16, fig.17, fig.34, n.17) to make energetic reserve of the accumulated heat during the day. The thermic energy stored in the piping (Fig. 1, fig.8, fig.9, fig.10, fig.11,

fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) and in the tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) is given back or left both at the room of the thermodynamic area (Fig. 14, n.1) and at the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, 285 fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) . The thermic energy is then left in the air by transforming it into kinetic energy like also the thermic energy is left to the thermo-electrical generator to go through it and to produce directly electrical energy. The release of the thermic energy from the radiant basis (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) is not 290 instantaneous, it happens gradually with release also during the night both at the thermodynamic room (Fig. 14, n.1) and at the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24).

The radiant system (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, 295 fig.34, fig.35, n. 3) placed on the basis of the tower constitutes the true energetic of the structure. The sun bearing energy is in fact stored in metallic piping full of water composed of piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) placed one at the side of the other till to constitute a unique packet . The piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) is covered 300 and connected with a layer of metallic plate till to constitute the organ body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) of black colour with vertical steel fins (Fig.2, fig.3, fig.5, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.34, n.23) placed in the direction of the air till to create a sucking surface; the vertical fins (Fig.2, fig.3, fig.5, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.34, n.23) are installed on the 305 remaining final surface for one third part of the length of the sector, the remaining part is instead interested by thermo-electrical generators (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) . Each sector of piping is connected with an accumulation tanker (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) of triangular shape placed between each module truncated-conic (Fig.2, fig.6, 310 fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34, n.17). The whole surface is black so to absorb the greatest radiation of the sun spectrum. The thermic picking up radiation will be partially stored and left at the water and partially at the air inside the thermodynamic room for the so called greenhouse effect and partially transmitted to the thermo-electrical layer (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, 315 fig.32, fig.33, fig.35, fig.36, n.24) .

The multiple currents of air which are created inside the system of the first tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7) coming from the vertical deflectors (Fig.2, fig.5, fig.6, fig.8, fig.12, fig.15, fig.16, fig.17, n.30), overlapped at the first currents created by the secondary tower (Fig.5, fig.14, fig.18, fig.22, n.11) for effect of the air coming
 320 from the first thermodynamic area (Fig. 14, n.1) as well as by the currents induced by the sucking up of the structure (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) by the secondary tower (Fig.5, fig.14, fig.18, fig.22, n.11), produce a movement of air which has notable kinetic energy which is sent, by the modular truncated -conic structure suitably planned (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34, n.17), in the area of lodging (Fig.13, fig.17, n.31) where there is the TURBINE (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12) which can transform the kinetic energy of the wind into electrical energy. The modular truncated -conic structure (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34, n.17) has a lenght of 1/10 of the ray of the basis of the structure.

330 Totally sixteen circular sectors, divided by transparent vertical walls, are invented (Fig.6, n.39). On each circular independent sector is installed a radiant and/ or picking up surface (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) composed by fin of thermic exchange (Fig.2, fig.3, fig.5, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.34, n.23) with thermo-electrical modules (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) connected in series with more rows, a perimetrical external sector of concave mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) which sends the sun radiation on the perimetrical piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) , a truncated -conic module (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34, n.17) with a turbine (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12) suitably placed in the site (Fig.13, fig.17, n.31), two sectors with vertical walls (Fig.2, fig.5, fig.6, fig.8, fig.12, fig.15, fig.16, fig.17, n.30) which sent the air into the tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7); part of the air is intercepted by the secondary tower (Fig.5, fig.14, fig.18, fig.22, n.11) to be sucked in the turbine (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) by the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19) which intercepts air at high speed in the conduct (Fig.18, fig.19, n.10) placed inside the shell (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) placed on top of the tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7).

350 The TURBINE (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12) is composed by a fix section with pointed tails (Fig.24, fig.25,fig.26, n.14) which conglomerates an electrical generator with permanent magnets (Fig.24, fig.25,fig.26, n.13) with an axis in a mobile blade (Fig.24, fig.25,fig.26, fig.34, n.15) which can intercept the kinetic energy of the wind produced by the device. At the entrance of the opening of the turbine is inserted a fix

355 turbine with four deflector blades (Fig.25,fig.26, fig.34, n.25) which can give the fluid fins of the air a deviation directly bearing on the mobile blades (Fig.24, fig.25,fig.26, fig.34, n.15). The turbine with double room (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12) lets to use at the best way the air flux which goes inside and that bears on the system of the mobile blades (Fig.24, fig.25,fig.26, fig.34, n.15). The air which is bearing on

360 the blades (Fig.24, fig.25,fig.26, fig.34, n.15) gives a twisting force to the shaft (Fig.24, n.16) which connects on the same axis the rotor of the generator with permanent magnets (Fig.24, fig.25,fig.26, n.13). the air which goes through the turbine in the first section increases of speed in the last part which is more narrow because of the deflectors (Fig.24, fig.25,fig.26, n.14) with pointed nails placed perimetrically and along the whole edge of the turbine; it

365 follows that the twisting effect of the emission of the fluid fins from the posterior opening of the turbine (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12) generates a substantial sucking to the movement of the air in its totality.

Totally in the device sixteen turbines are installed.

Functioning.

370 The system works both during the day and during the night.

During the day the sun radiation invests the tower in he following areas:

- On the whole volume of the thermodynamic area (Fig. 14, n.1) which determinates the first area where there are the first ascensional movements because of the kinetic energy in the air; and so the air gradually climbs to the tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7) for the effect of the ascensional current which is created due to the first phenomenon of the greenhouse effect; the movement of air lets to extract the heat from the thermo-electrical generators (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) placed on the radiant basis, this extraction of heat is the consequence di of production of electrical energy .
- 380 - On the whole metallic radiant basis (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) placed at the basis of the tower, such surface by heating accumulates sun thermic energy and gives it gradually back in the thermodynamic room (Fig. 14, n.1) beyond the metallic surface of the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32,

385 fig.33, fig.35, fig.36, n.24).

- On the metallic surface of the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) which, by heating, sends the heat to the layer of thermo electrical material constituted by cells "Peltier-Seebeck" (Fig.27, fig.28, fig.29, fig.30, n.33) , the heat is
390 squandered and given to the thermodynamic room (Fig. 14, n.1) by the aluminium surface (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32) by the strong current of air which goes through and squanders the heat.

- On the whole area with concave mirrors (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) which reflects the sun radiation by sending it to the
395 external piping (22) of the radiant black body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3), the energy which accumulates by the water tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) is gradually left in the thermodynamic room (Fig. 14, n.1) with increasing of kinetic energy of the air as well as at the metallic layer of the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) .
400

In the second chimney (Fig.5, fig.14, fig.18, fig.22, n.11) other ascensional currents are enveloped which are due to the difference of pressure in the conduct (Fig.18, fig.19, n.10) of the structure (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) induced by the vertical turbine (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) whose twisting and
405 movement are induced by the wind force on the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19) .

During the night the piping full of water (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) with the tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) give back the thermic energy accumulated during the day at the air and at the thermo-
410 electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) , the thermic energy is then given both to the air which wraps the fins of the radiant body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) ad at the metallic external surface of the thermo-electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) to be
415 squandered with the aluminium fins (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32) after that the heat has gone through the semi-conductor layer which separates both surfaces. The ascensional current which is created in the thermodynamic room (Fig. 14, n.1) is sent by modular conducts (Fig.2, fig.6, fig.8, fig.9, fig.12, fig.13, fig.15, fig.16, fig.17, fig.34,

420 n.17) on the turbines (Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12); the currents induced in the secondary tower (Fig.5, fig.14, fig.18, fig.22, n.11) because of the effect of the vertical turbine (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) maintain at minimum the energetic values of the devices also in cases of minimum sun.

Advantages.

425 The building of the electric station lets to utilize the sun and wind energy simultaneously and synergically the effects created by the kinematic force of the wind utilized by some particular turbines while the thermic effects created are directly use of the thermo- electrical property of the materials. The sun station lets to use less territory respect to the traditional devices which use the wind and the sun to produce electrical energy from renewable sources; they work 430 permanently both during the day and during the night by creating the possibility to obtain electrical energy with low costs. The power installed in the TST is similar to a wind or sun device of the power of circa 5 times the one installed in the TST.

CLAIMS

1. The device for the production of electrical energy fed by sun and wind source artificially produced in a controlled room with permanent functioning, called Sun Turbine Treelux (TST) is characterized by the fact that inside the principal tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7) is built a second tower (Fig.5, fig.14, fig.18, fig.22, n.11) and thanks to it the external air which goes into the opening of the structure (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9), placed on the top of the tower, increases in speed in the conduct on top of the chimney of the inside towers which give the forced sucking of the air which goes through the conduct (Fig.18, fig.19, n.10) .
2. The device for the production of electrical energy, we talked about in the claim no. 1 is characterized by the fact that in the second tower there is a vertical turbine, which has the effect of dragging i.e. sucking of the air which comes from the low part, by the second tower (Fig.5, fig.14, fig.18, fig.22, n.11) placed inside the primary one (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7), such turbine (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) moves thanks to the air flux with high speed by the force of the air on the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19) .
3. The device for the production of electrical energy, we talked about in the claim no. 1 and 2 is characterized by the fact that the shell placed on the primary tower (Fig.1, fig.2, fig.3, fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.32, n.7) is composed by an external shell (Fig.2, fig.3, fig.4, fig.9, fig.14, fig.16, fig.18, fig.19, fig.21, fig.22, n.9) and an inside conduct (Fig.18, fig.19, n.10) with shape and dimensions to simulate a true wind gallery with entrance opening and outlet of the air; the restriction of the section of entrance (Fig.18, fig.19, n.10) lets the air to reach high speeds and then in aerodynamic way utilizable .
4. The device for the production of electrical energy, we talked about in the claim no. 1 and 2 and 3 is characterized by the fact that on the top of the shell the drift rudder is placed by whom the whole structure twists by the magnetic levitation device (Fig.14, fig.23, n.21), by putting with the primary opening on the direction of the wind; at the rotor (Fig.18, fig.19, fig.20, fig.21, fig.22, n.19) the turbine is connected at vertical axis (Fig.14, fig.18, fig.19, fig.21, fig.22, n.18) so that to induce in the vertical conduct (Fig.5, fig.14, fig.18, fig.22, n.11) a decreasing of pressure and to create then also the sucking of a part of the fluid fins coming from the basis of the tower by the secondary chimney (Fig.5, fig.14, fig.18, fig.22, n.11).
5. The device for the production of electrical energy, we talked about in the claim no. 1 2 3 and 4 is characterized by the fact to be endowed with turbines with doubles rooms

(Fig.4, fig.5, fig.6, fig.7, fig.12, fig.14, fig.15, fig.24, fig.25, fig.34, n.12), placed in a circular conduct with trunkated –conic section.

6. The device for the production of electrical energy, we talked about in the claim no. 5 is characterized by the fact that the turbines are composed of the shaft (Fig.24, n.16) which connects on the same axis the rotor of the permanent magnets generator (Fig.24, fig.25,fig.26, n.13) which has the twisting force thanks to the bearing air on the blades (Fig.24, fig.25,fig.26, fig.34, n.15); the last step is more narrow because of the deflectors (Fig.24, fig.25,fig.26, n.14) with pointed nails placed perimetrically and along the whole edge of the turbine; the electrical energy is sent to transformers placed in cabins (Fig.4, n.34), by electrical interred systems (Fig.4, n.35) to be able to climb tension and to be admit in network (Fig.4, n.36).

7. The device for the production of electrical energy, we talked about in the claim no. 1 2 3 4 5 and 6 is characterized by the fact to be endowed of steel platforms (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) placed at the basis of the towers full of water which are heated by the effect of the sun radiation, so that the thermic energy stored in the piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) of the receptor body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) is given back or left in the room of the thermodynamic area (Fig. 14, n.1) also during the night as well as to be transmitted to the thermo electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24).

8. The device for the production of electrical energy, we talked about in the claim no. 1 2 3 4 5 6 and 7 is characterized by the fact that a third part of the lenght of the sector where the water piping is inserted, claim no. 7, is covered and connected with a layer of metallic black lamination endowed with vertical fins (Fig.2, fig.3, fig.5, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.34, n.23) always of steel placed in the direction of the air till to create the greatest picking up surface, directly invested by the sun radiation in the thermodynamic room (Fig. 14, n.1), which is “wrinkled” with a treatment called “sandblast” and which is made of colour black so that it can absorb at the most the radiation of the sun spectre.

9. The device for the production of electrical energy, we talked about in the claim no. 1 2 3 4 5 6 7 and 8 is characterized by the fact that on the two third parts of the picking up surface 3) is inserted a thermo electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) essentially constituted by a metallic hot layer whose transversal section has a shape of paraboloid.

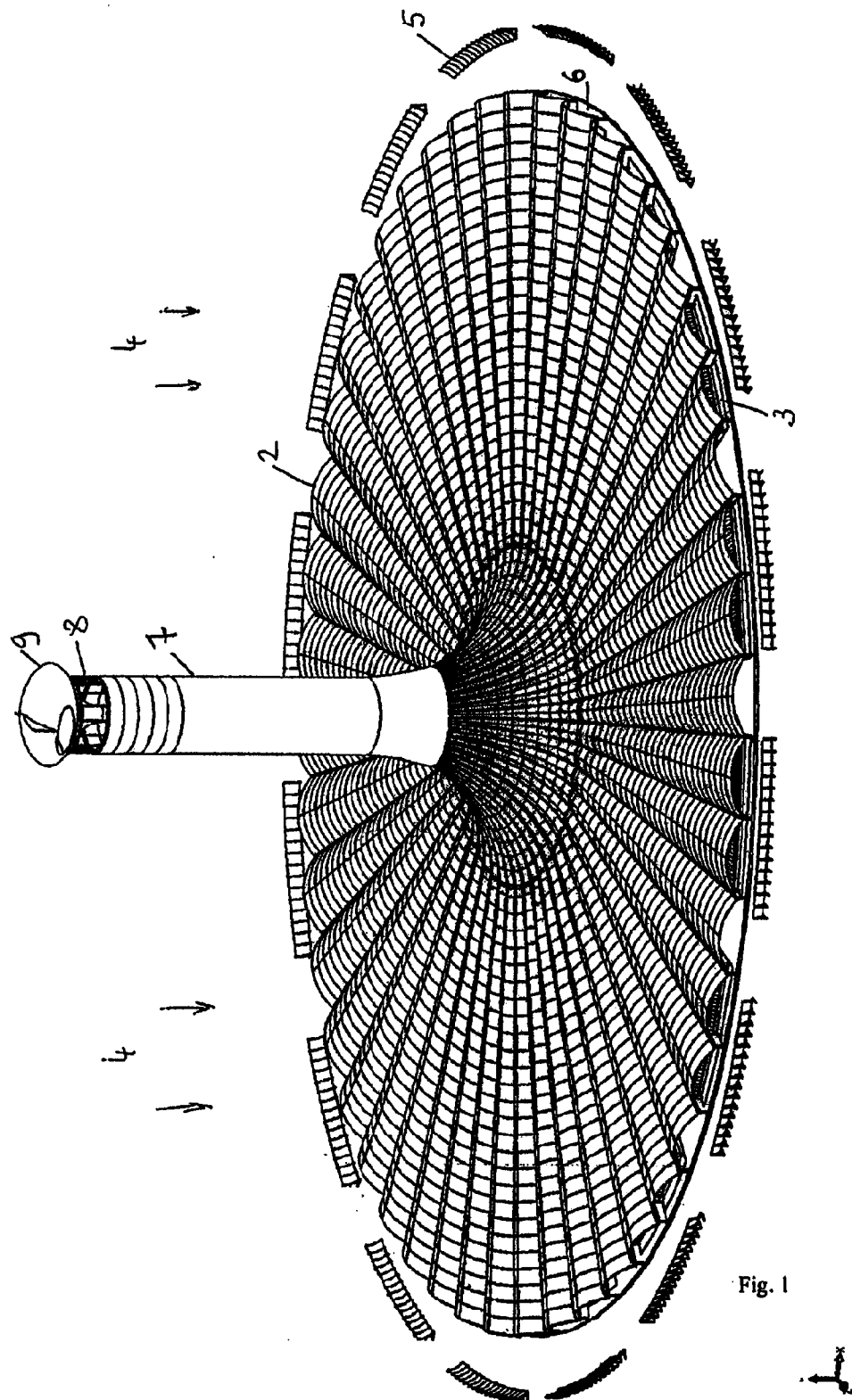
10. The device for the production of electrical energy, we talked about in the claim no. 9 is characterized by the fact that the system is at "sandwich" with external metallic hot layer (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) heated by the sun radiation and with the thermo electrical material (cells Peltier-Seebeck) (Fig.27, fig.28, fig.29, fig.30, n.33) - connected electrically in series - where inside a scattering aluminium body is connected - cold surface - (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32) .

11. The device for the production of electrical energy, we talked about in the claim no. 9 and 10 is characterized by the fact that the cell Peltier-Seebeck (Fig.27, fig.28, fig.29, fig.30, n.33) is placed in touch and suitably stucked with thermo electrical glue which generates electrical currents at low voltage; the electrical current produced by the cells Peltier-Seebeck (Fig.27, fig.28, fig.29, fig.30, n.33) is sent to transformers placed in cabins (Fig.4, n.34), by interred conductors (Fig.4, n.35) to be able to climb the tension and to be admit in network (Fig.4, n.36).

12. The device for the production of electrical energy, we talked about in the claim no. 1 2 3 4 5 6 7 8 9 10 and 11 10 is characterized by the fact that along the whole circular perimeter of the tower some concave mirrors are placed (Fig. 1, fig.2, fig.3, fig. 4, fig.6, fig.8, fig.9, fig.10, fig.16, fig.32, fig.33, fig.36, fig.37, n.5) which send, with a suitable and opportune variable inclination, the thermic energy transmitted by the sun on the whole perimetrical external piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) of the black picking up body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3), so that the ulterior thermic energy is accumulated on the metallic surface of the black body, transmitted into the water contained in the pipings of the radiant body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) to be given back, even in the night, both to the thermo electrical generator (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11, fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) and to the thermo dynamic room (Fig. 14, n.1) by the vertical radiant fins (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22) and the squanderers (Fig.27, fig.28, fig.29, fig.30, fig.32, fig.36, n.32).

13. The device for the production of electrical energy, we talked about in the claim no.12 is characterized by the fact that on the perimetrical external piping of the black radiant and/or picking up body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) a transparent surface is placed (Fig.11, fig.32, fig.33, fig.35, fig.36, n.37) made of pirex glass which wraps the same portion of external piping (Fig.3, fig. 5, fig.7, fig.8, fig.10, fig.11, fig.12, fig.32, fig.33, fig.34, fig.35, fig.36, n.22); the thermic energy is then

transferred for continuity to the whole radiant body (Fig. 1, fig.8, fig.9, fig.10, fig.11, fig.14, fig.15, fig.16, fig.32, fig.33, fig.34, fig.35, n. 3) and stored in the water and in accumulation tankers (Fig.6, fig.12, fig.13, fig.15, fig.17, n.29) to be able to be given back both to the thermodynamic (Fig. 14, n.1) and to the layer (Fig.2, fig.3, fig.4, fig.6, fig.7, fig.8, fig.9, fig.10, fig.11,fig.12, fig.16, fig.27, fig.28, fig.29, fig.31, fig.32, fig.33, fig.35, fig.36, n.24) of the thermo electrical generator.



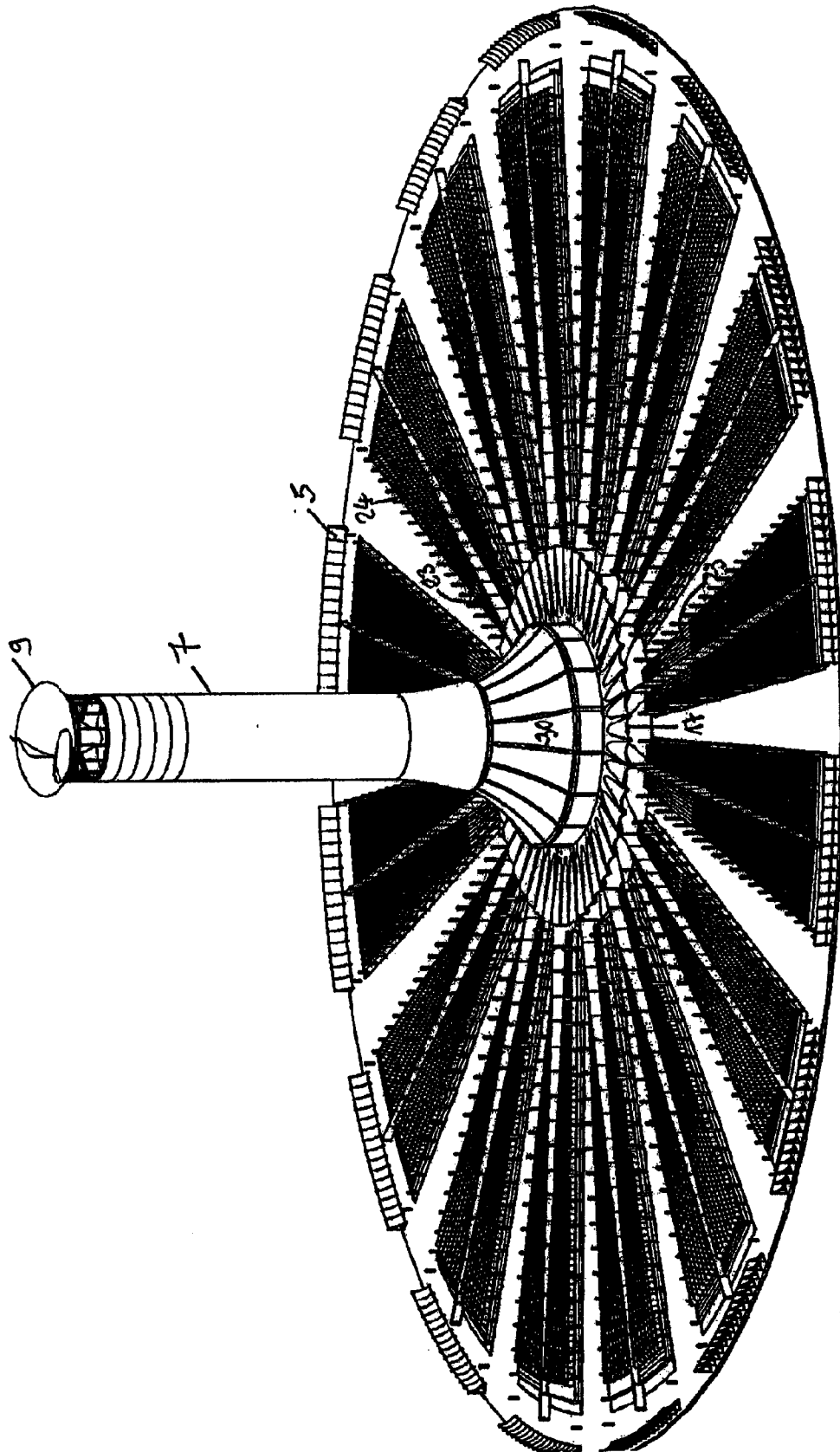


Fig. 2



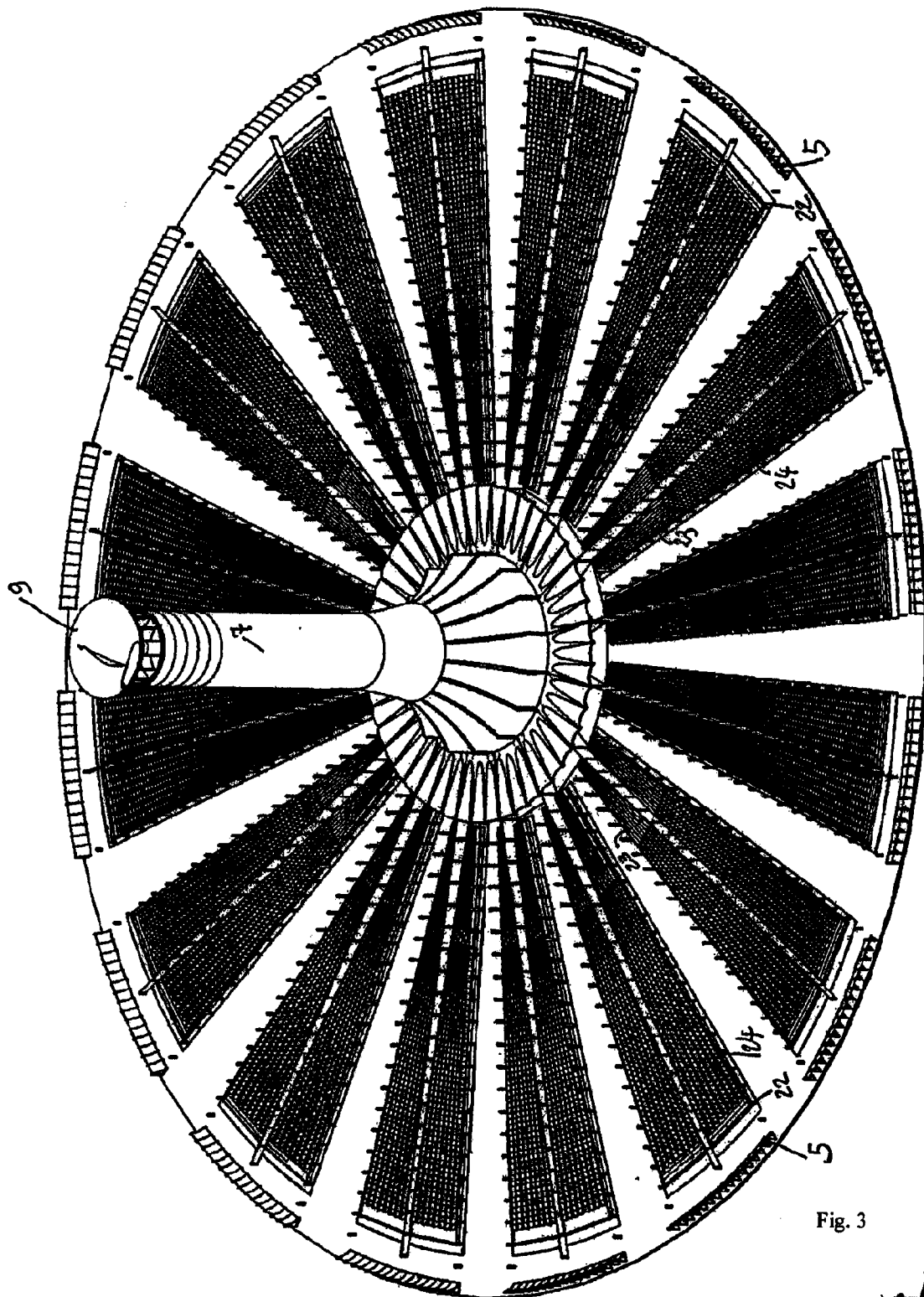


Fig. 3



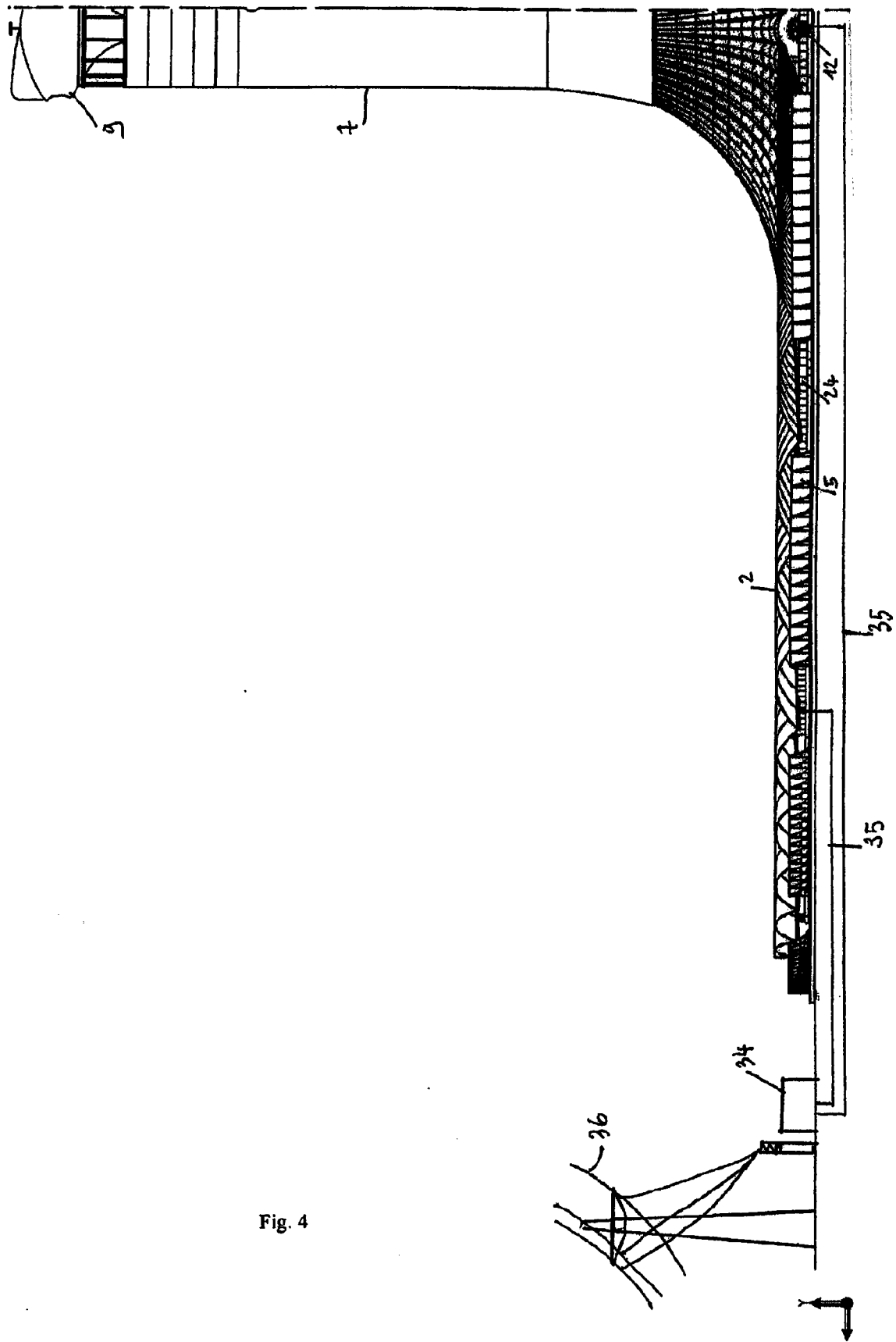


Fig. 4

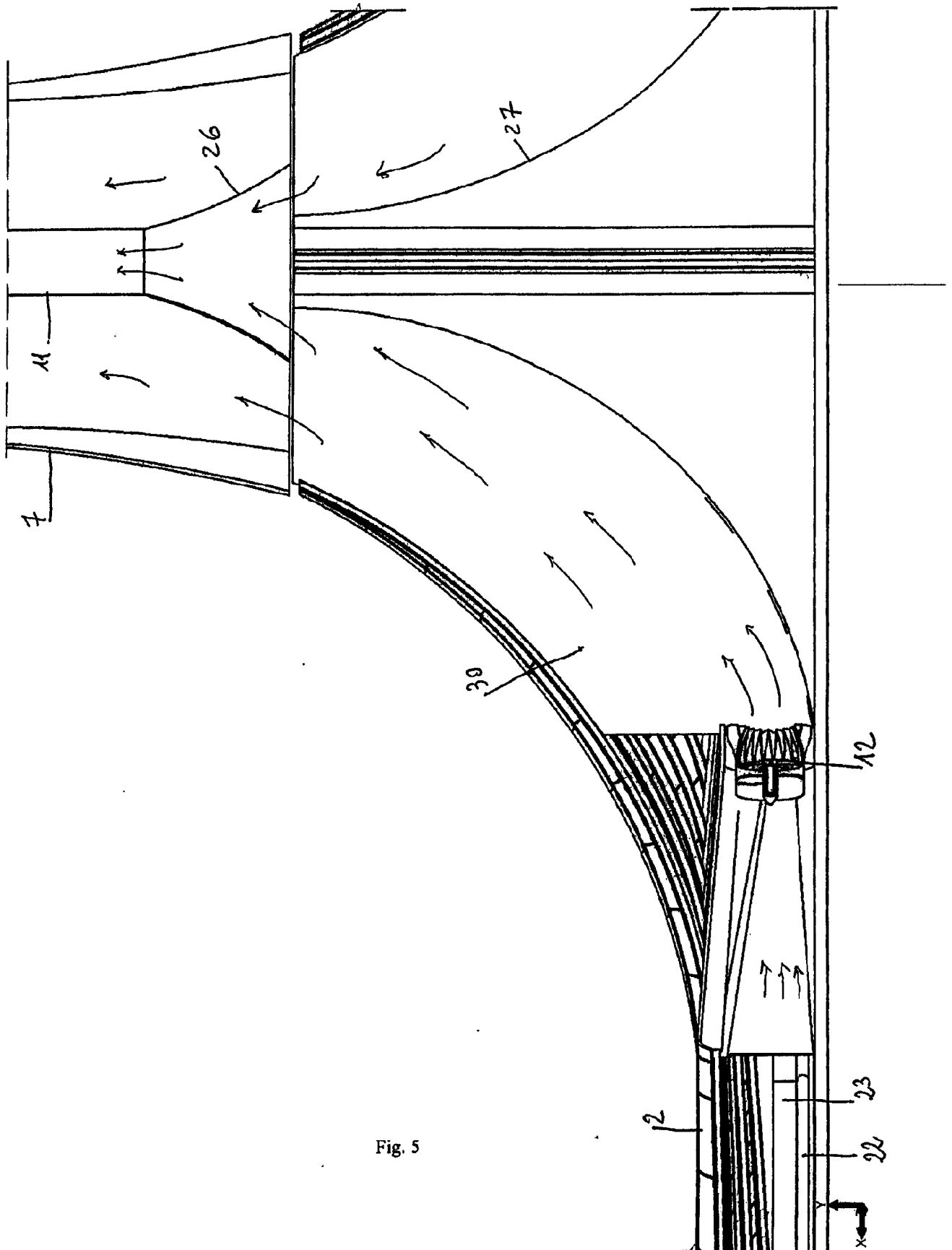


Fig. 5

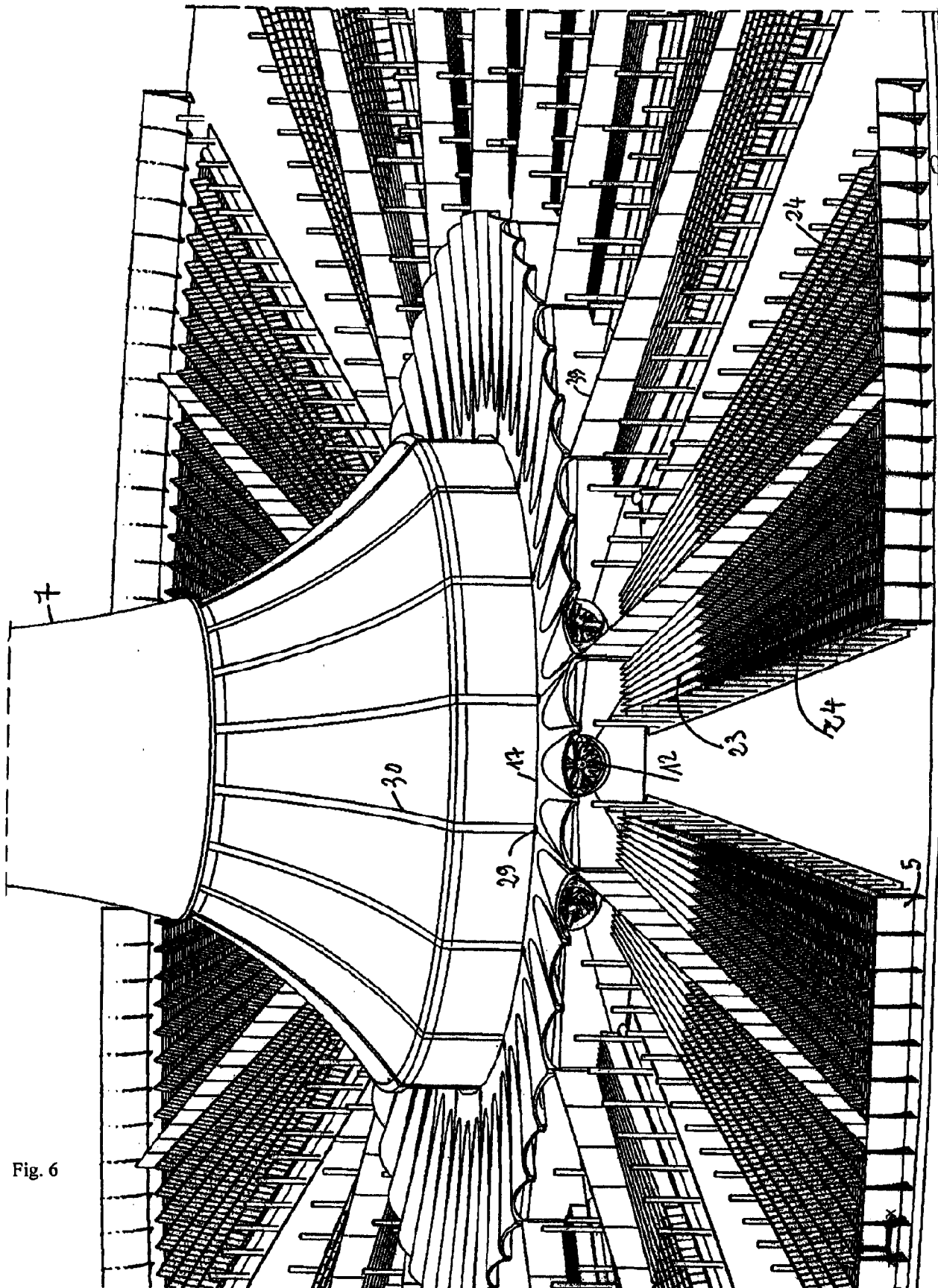
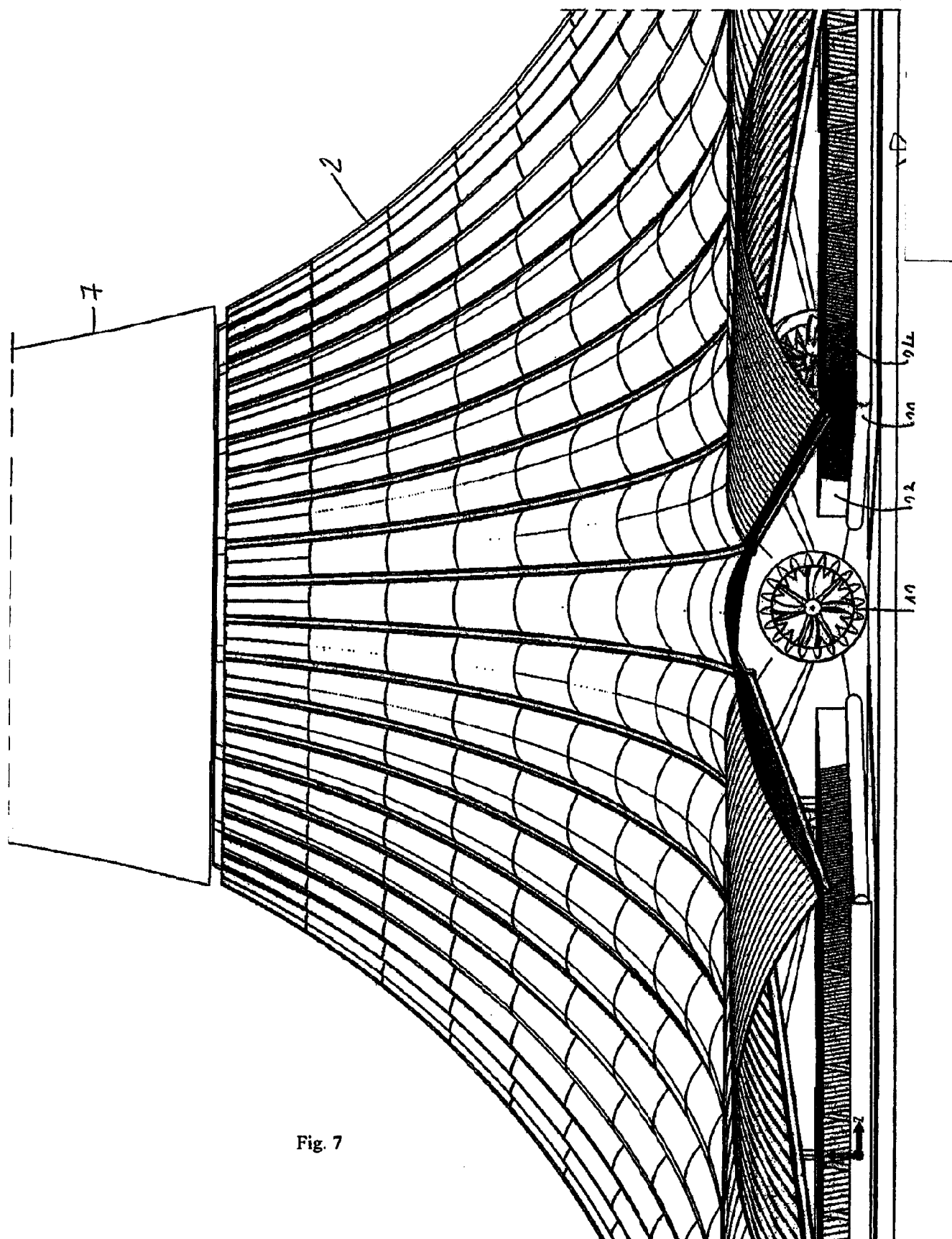


Fig. 6



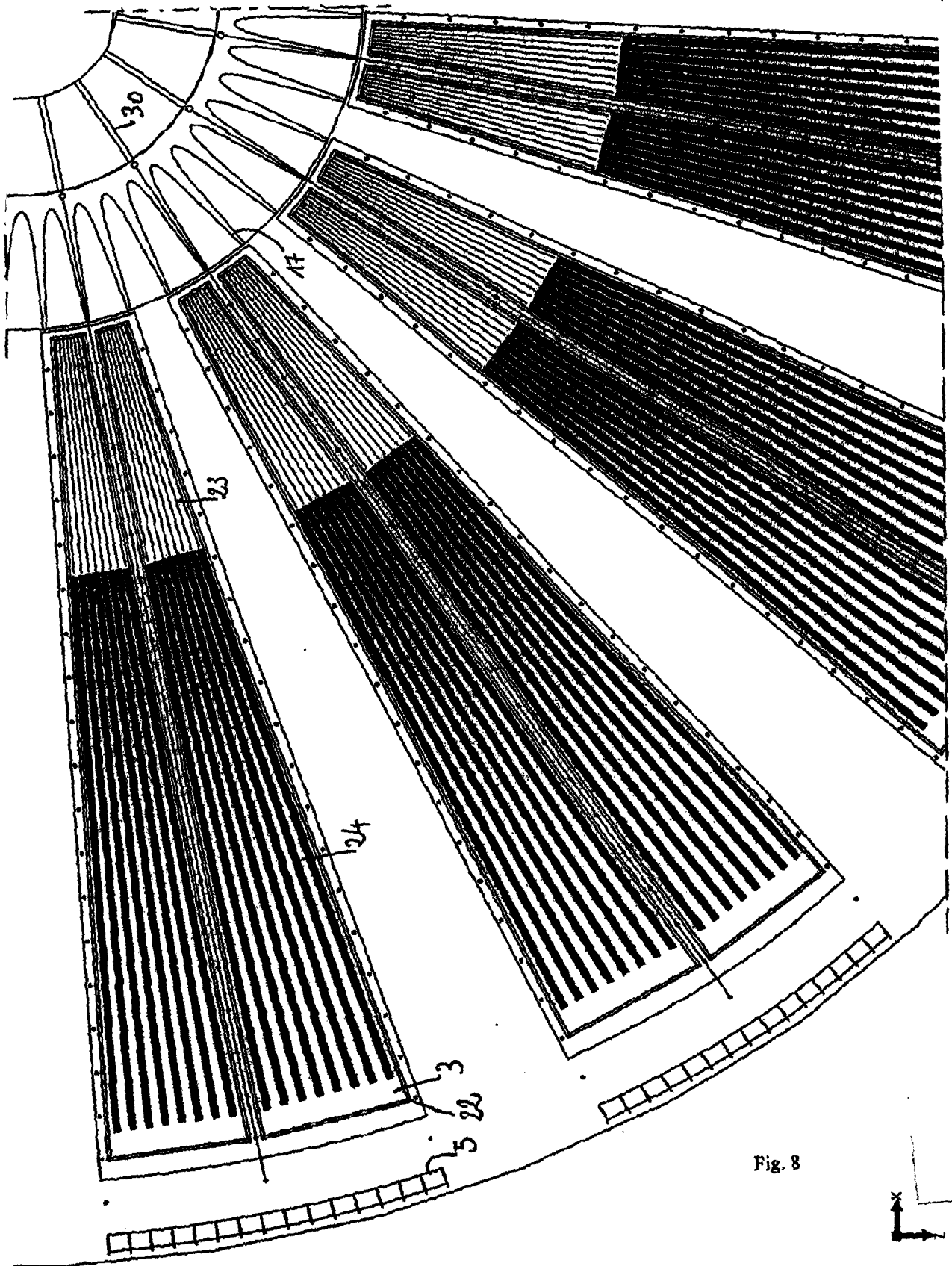


Fig. 8

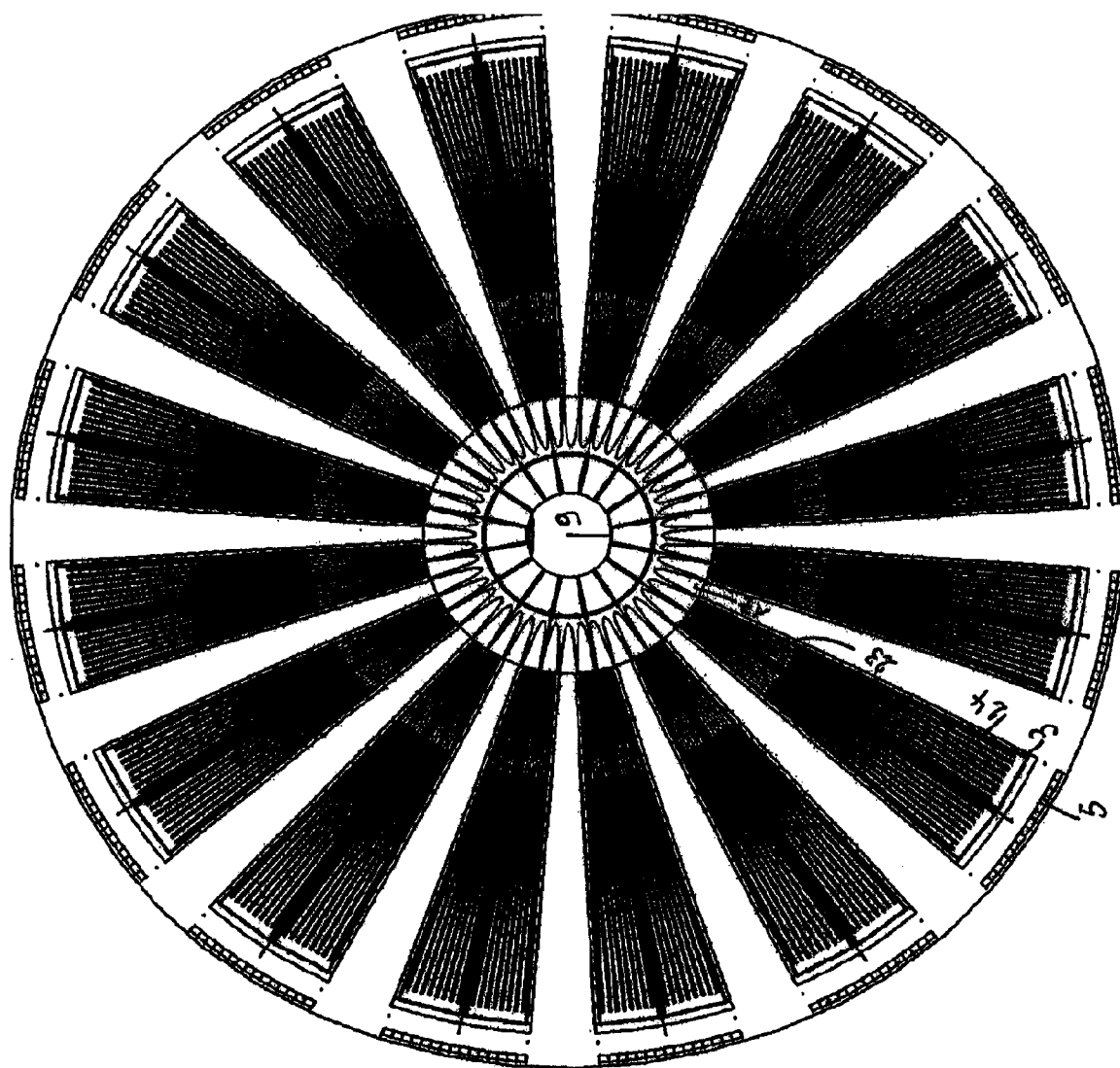


Fig. 9



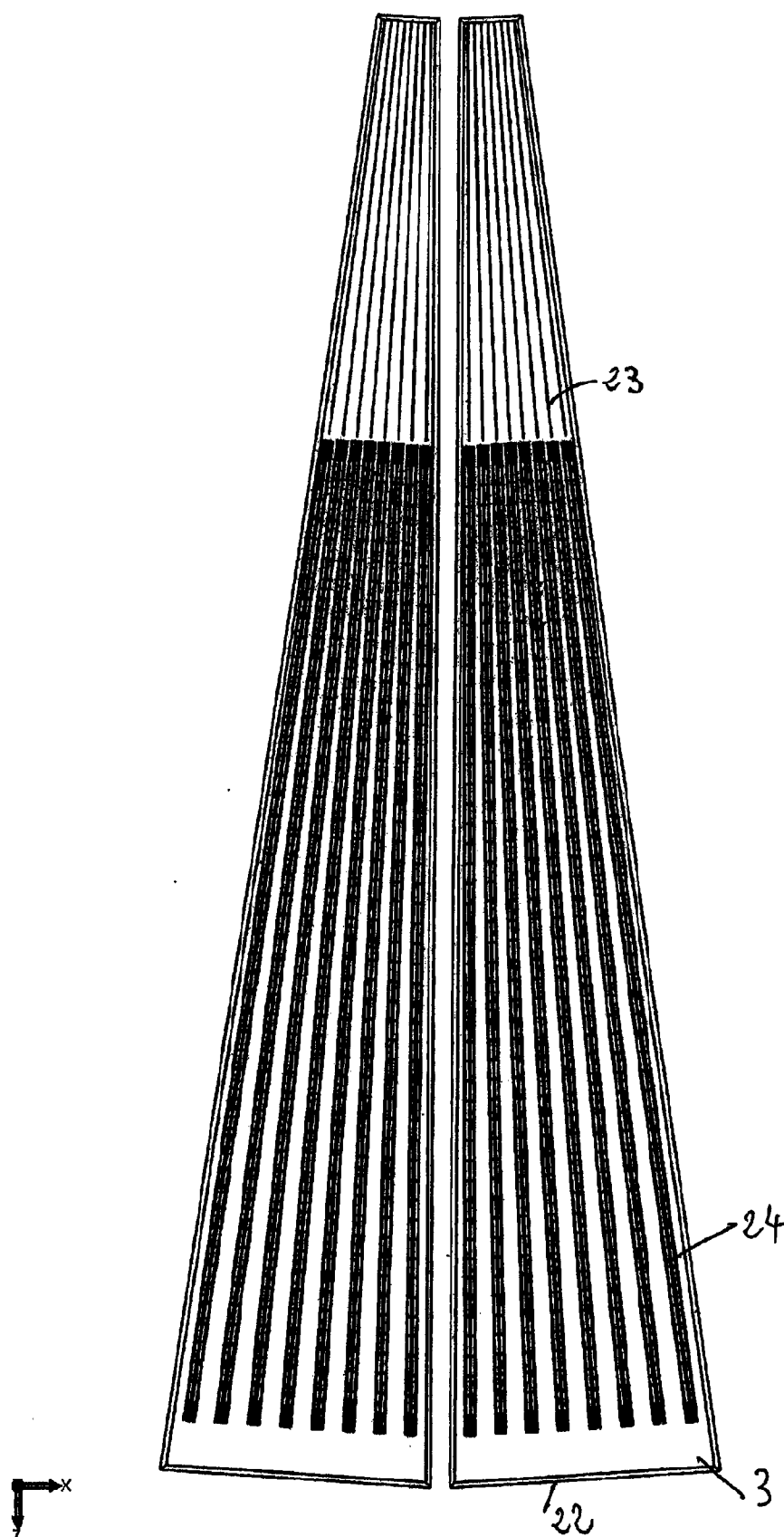


Fig. 10

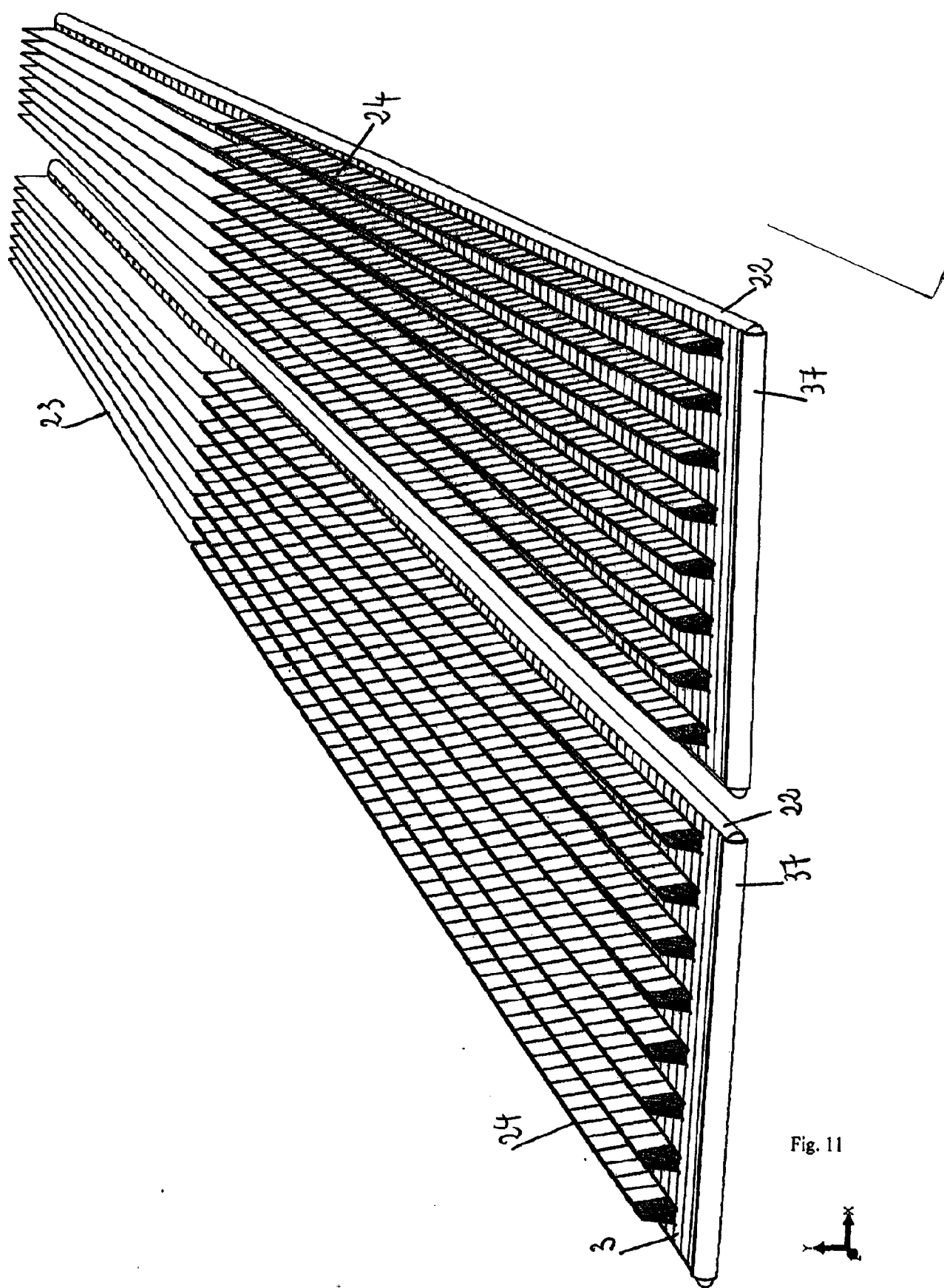
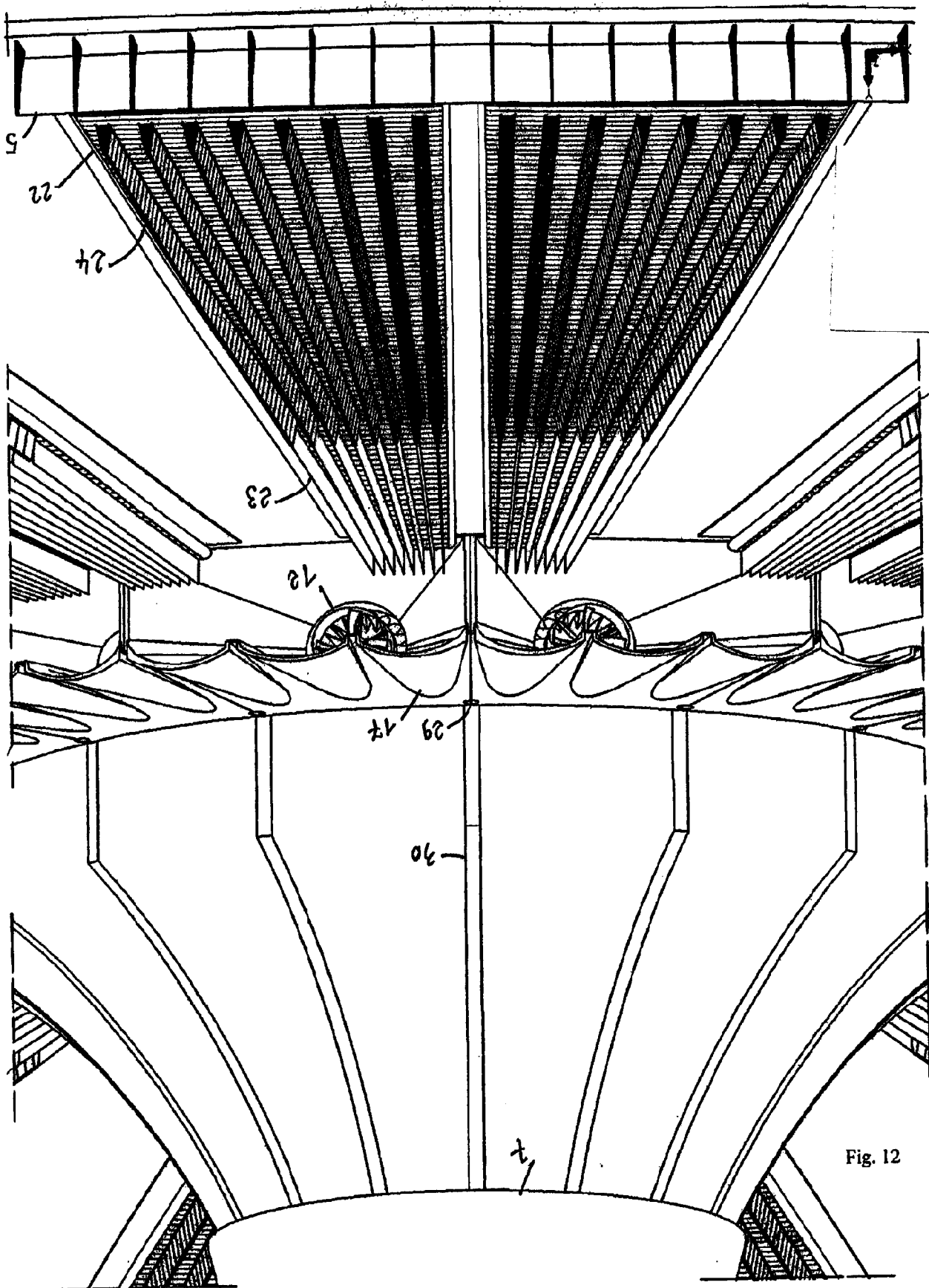


Fig. 11



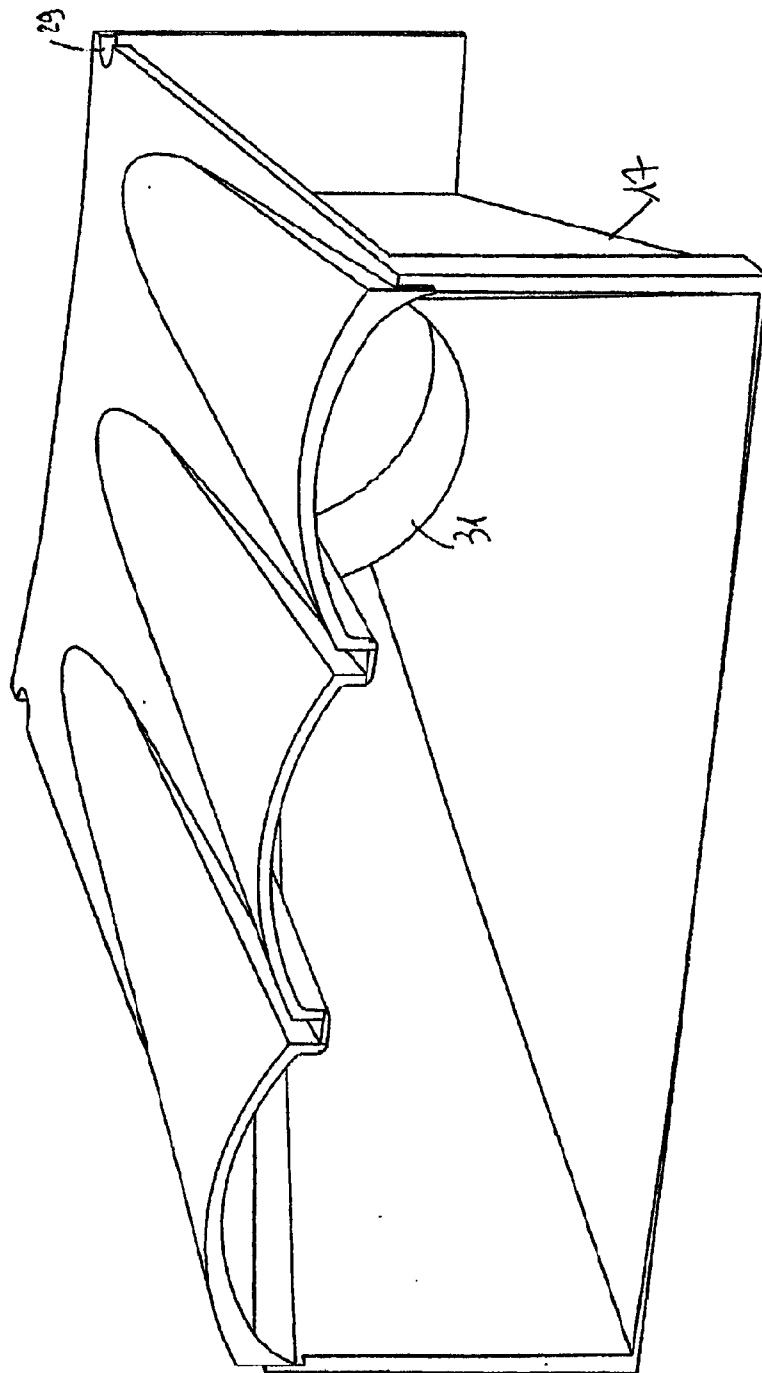


Fig. 13



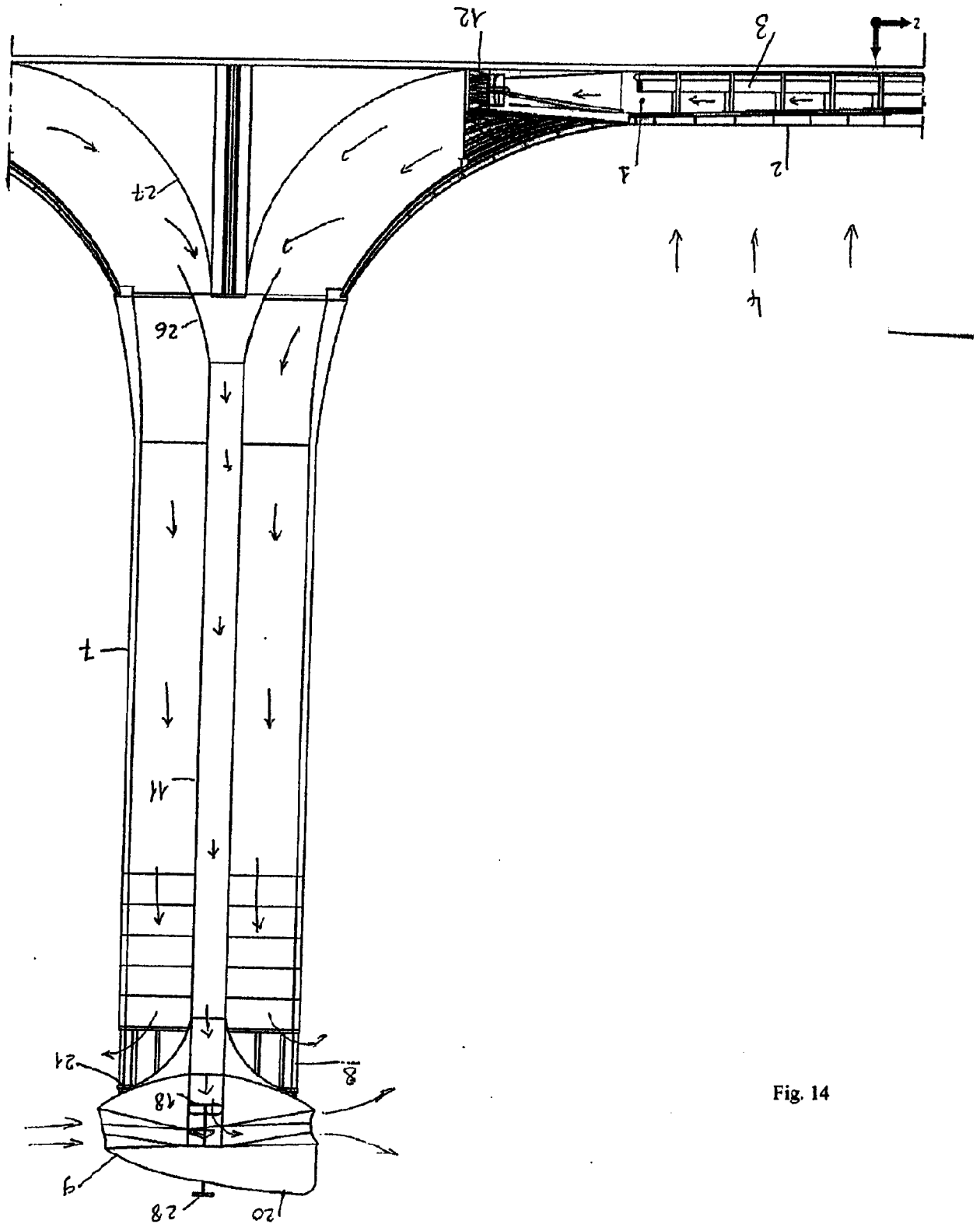


Fig. 14

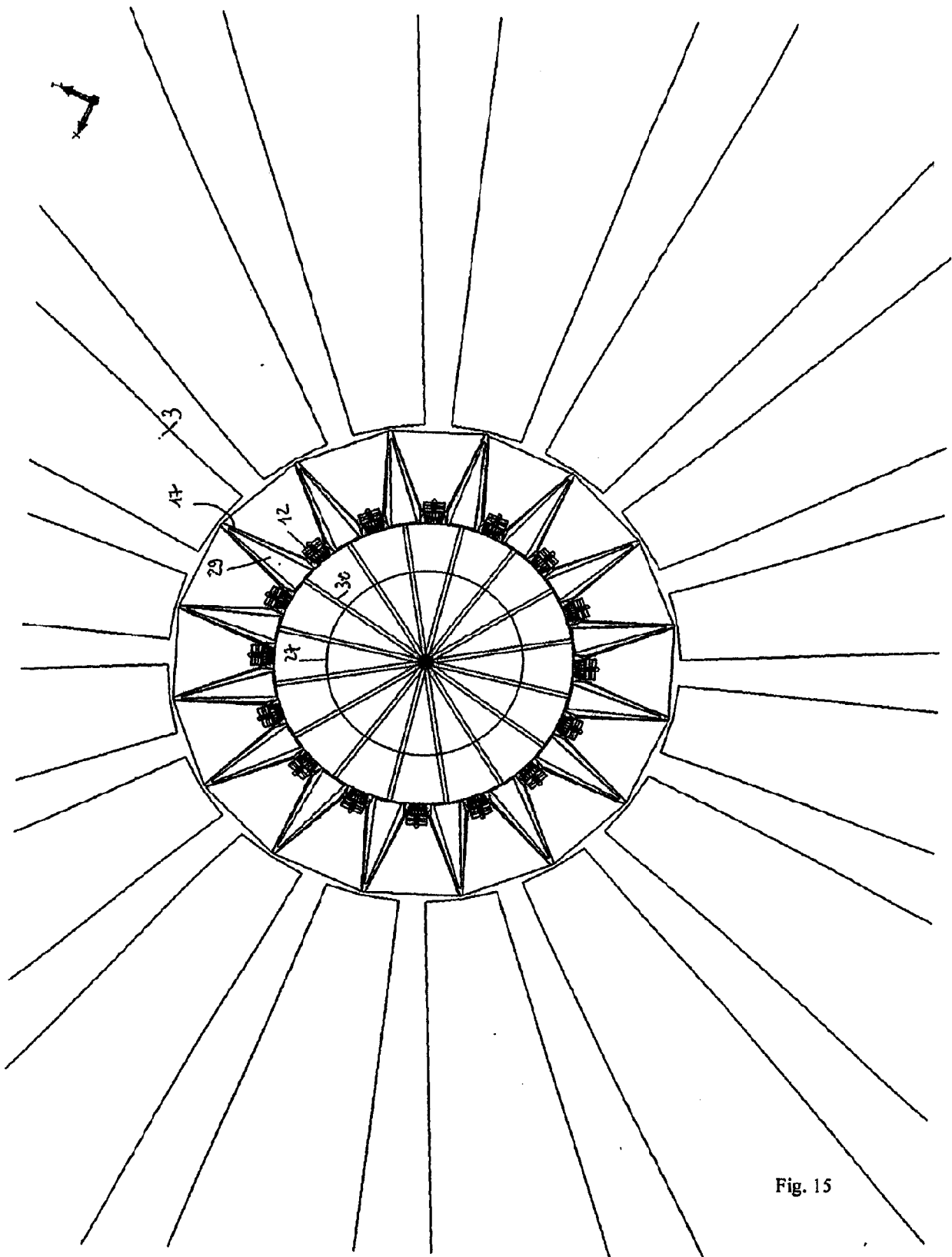


Fig. 15

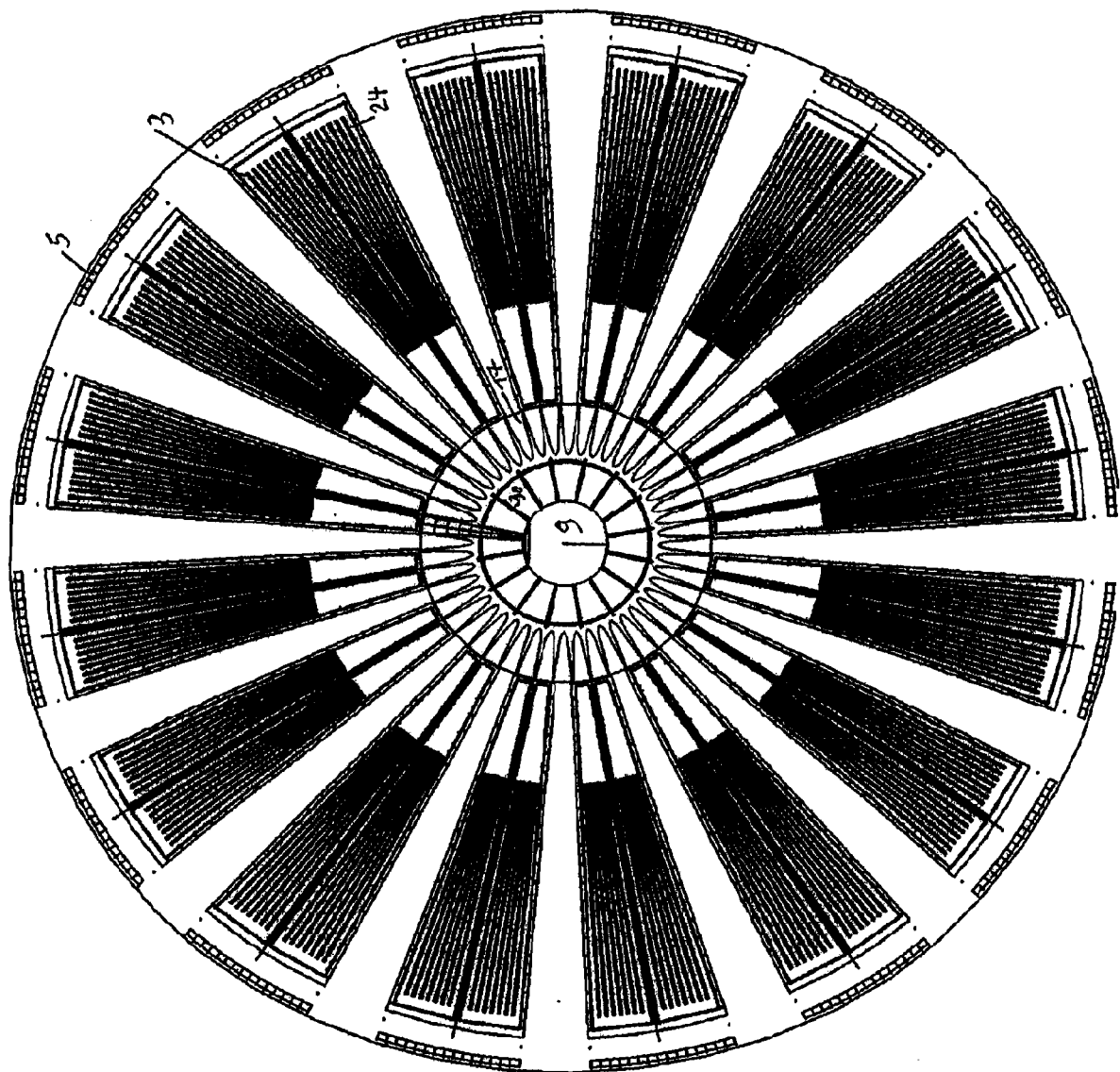


Fig. 16



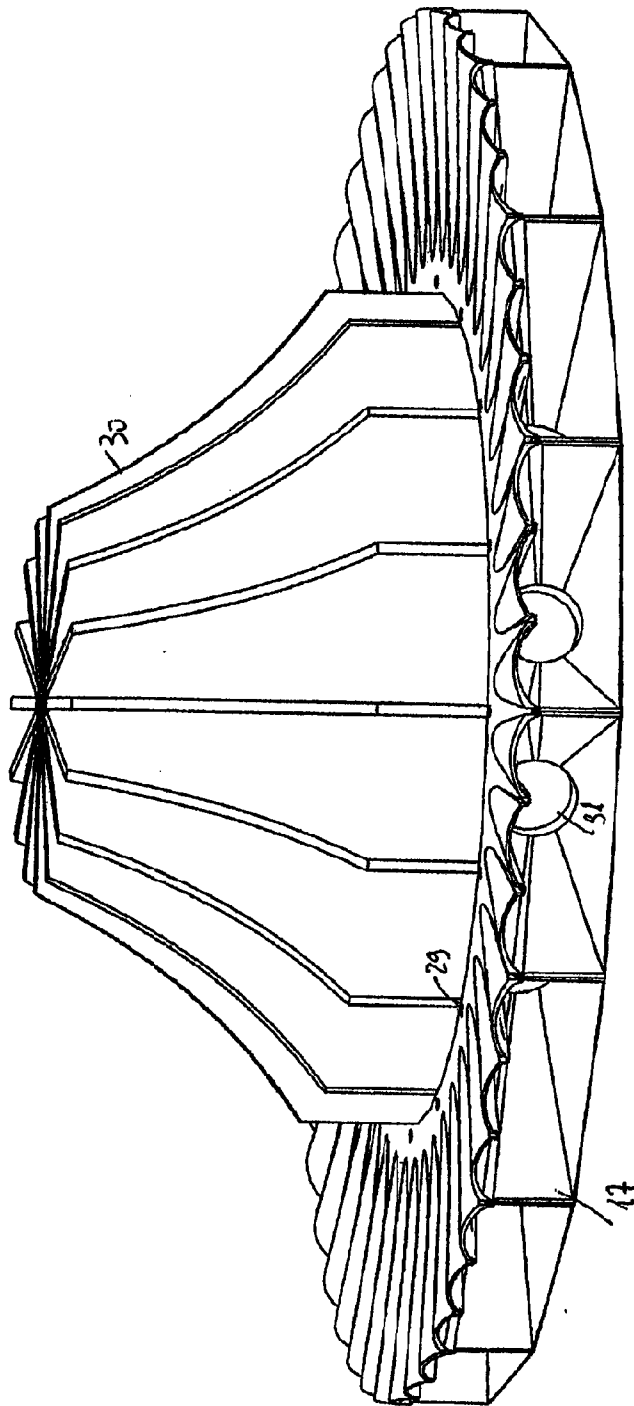
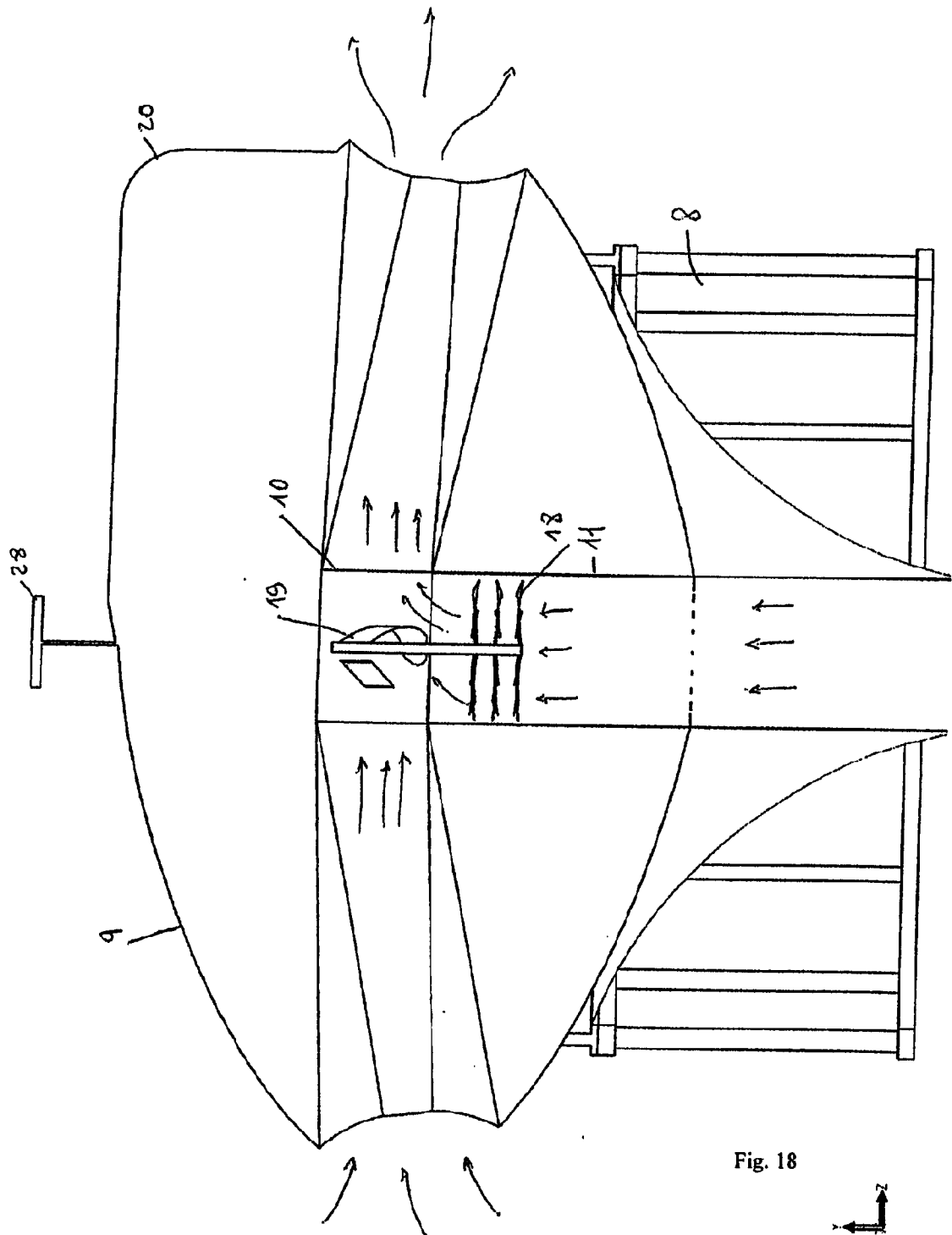


Fig. 17





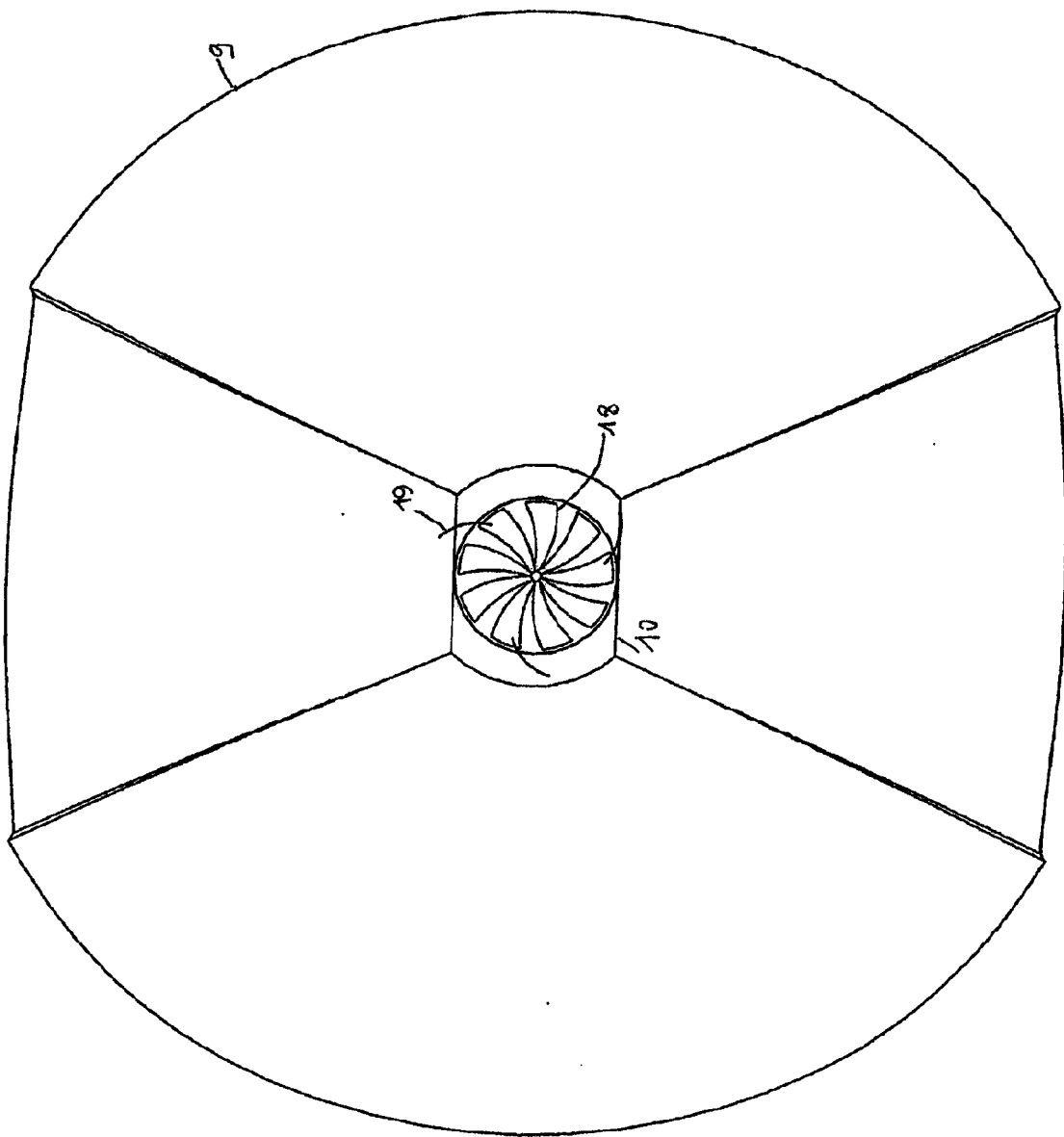


Fig. 19



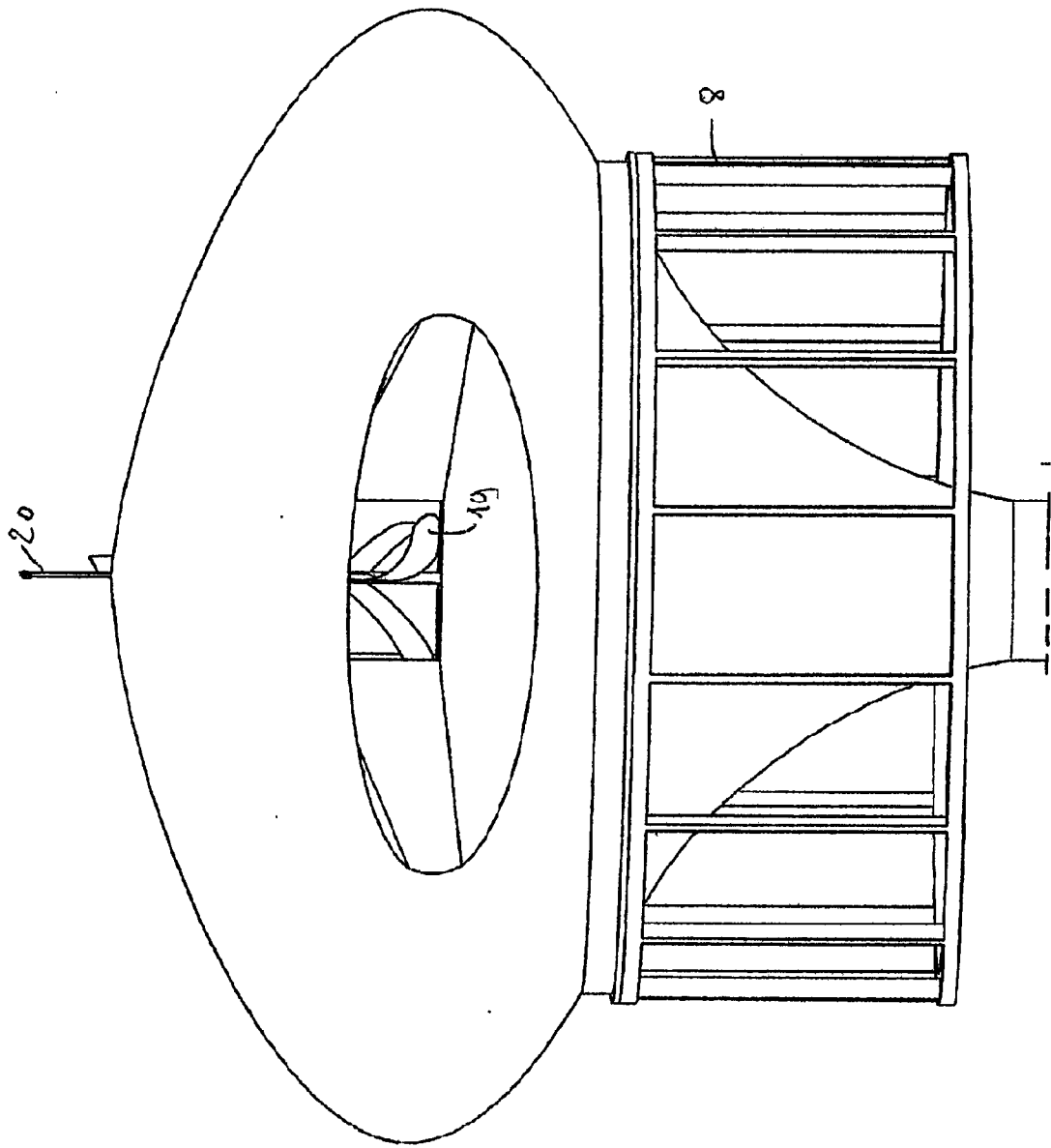


Fig. 20



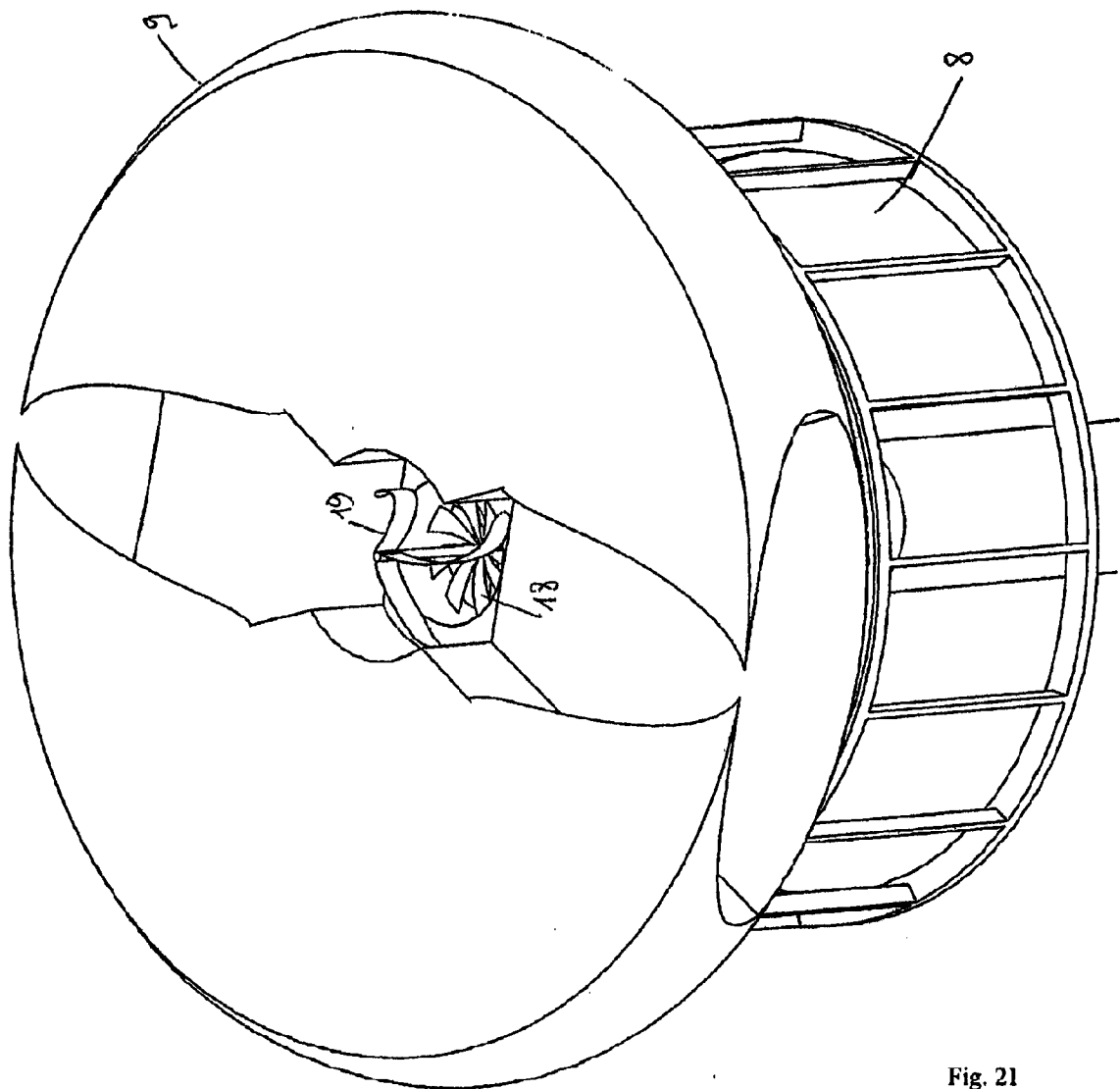


Fig. 21



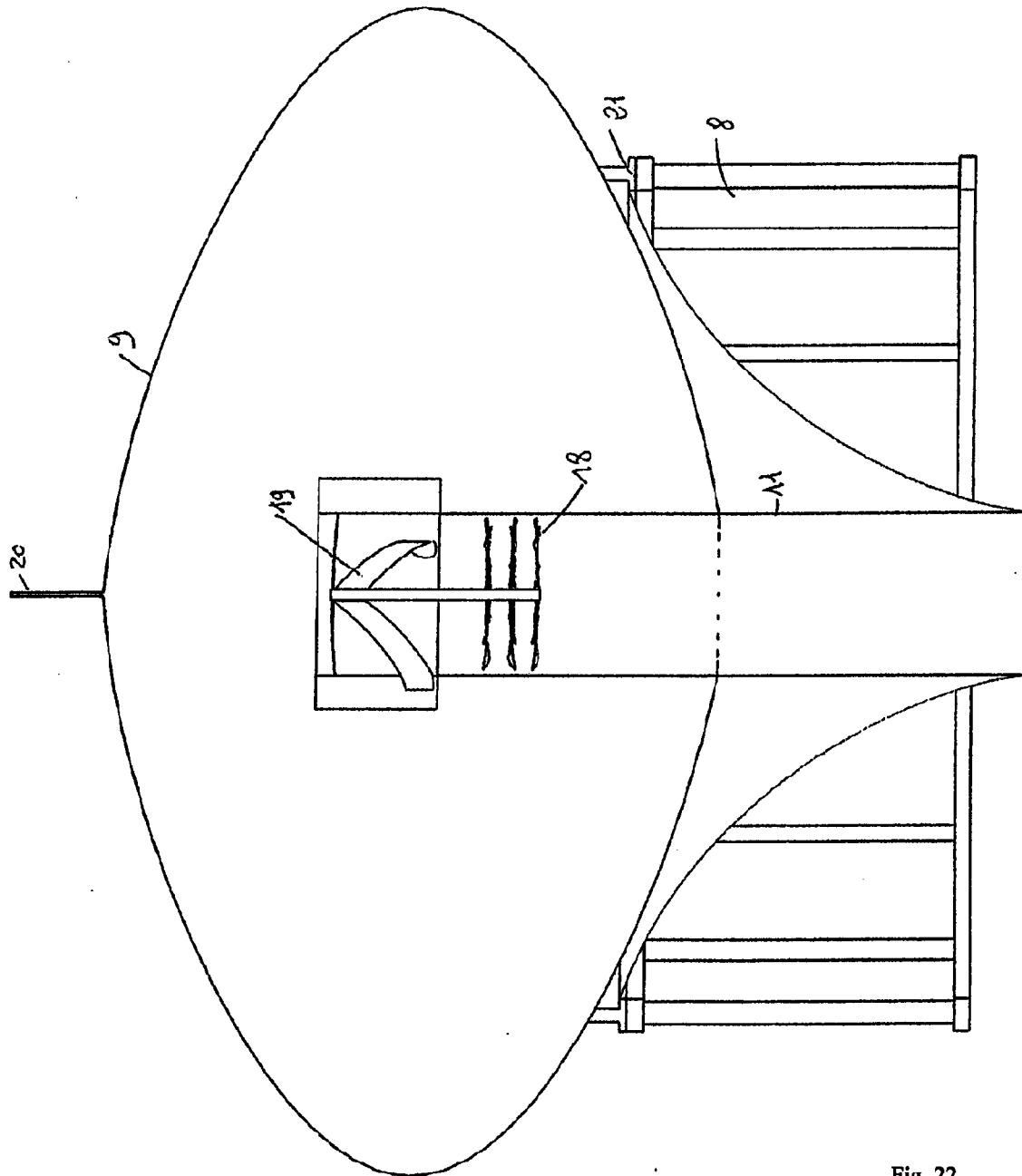


Fig. 22



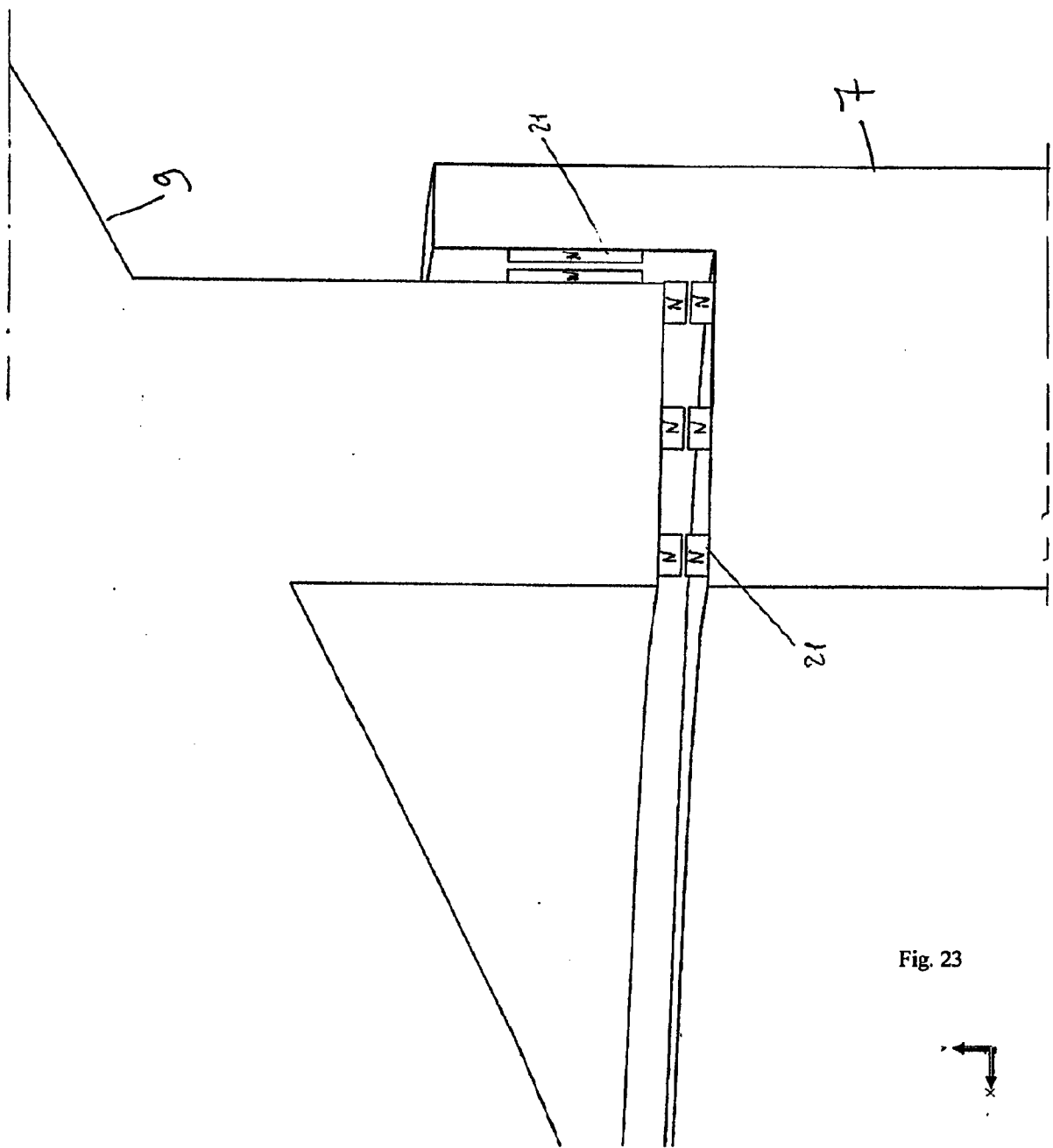


Fig. 23



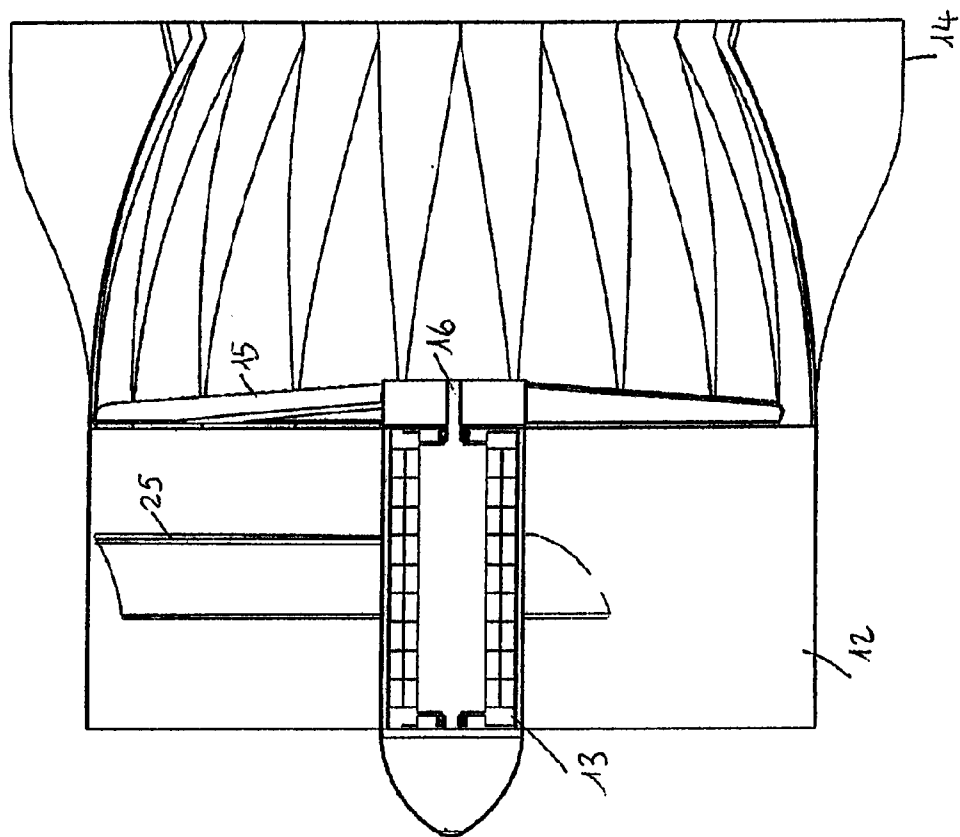


Fig. 24



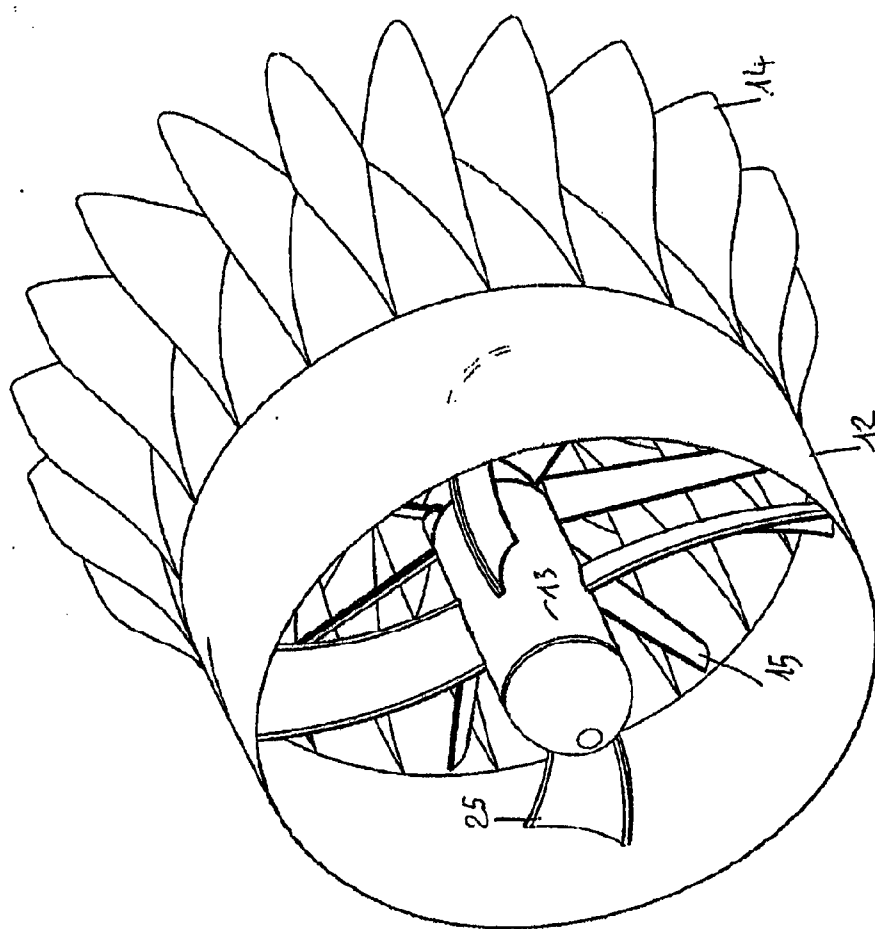


Fig. 25



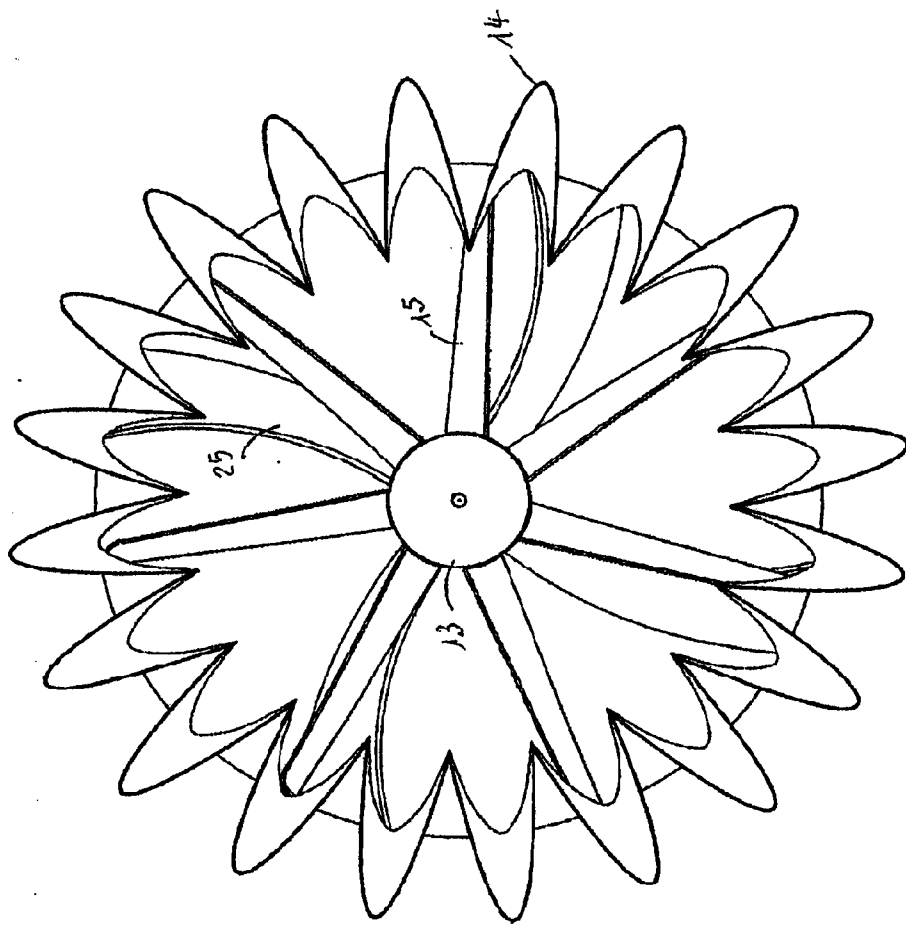


Fig. 26



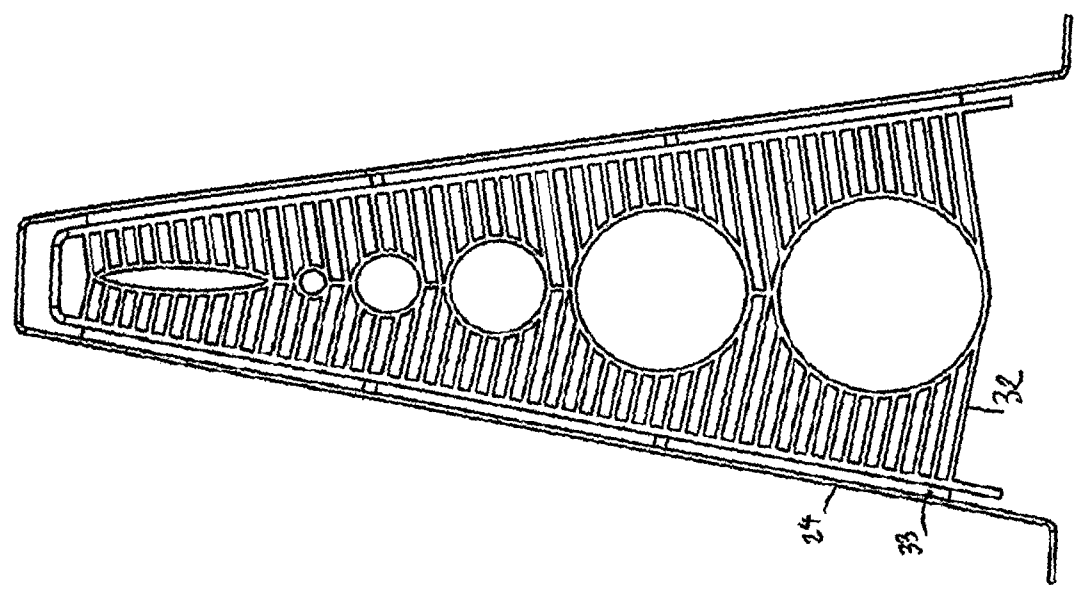


Fig. 27



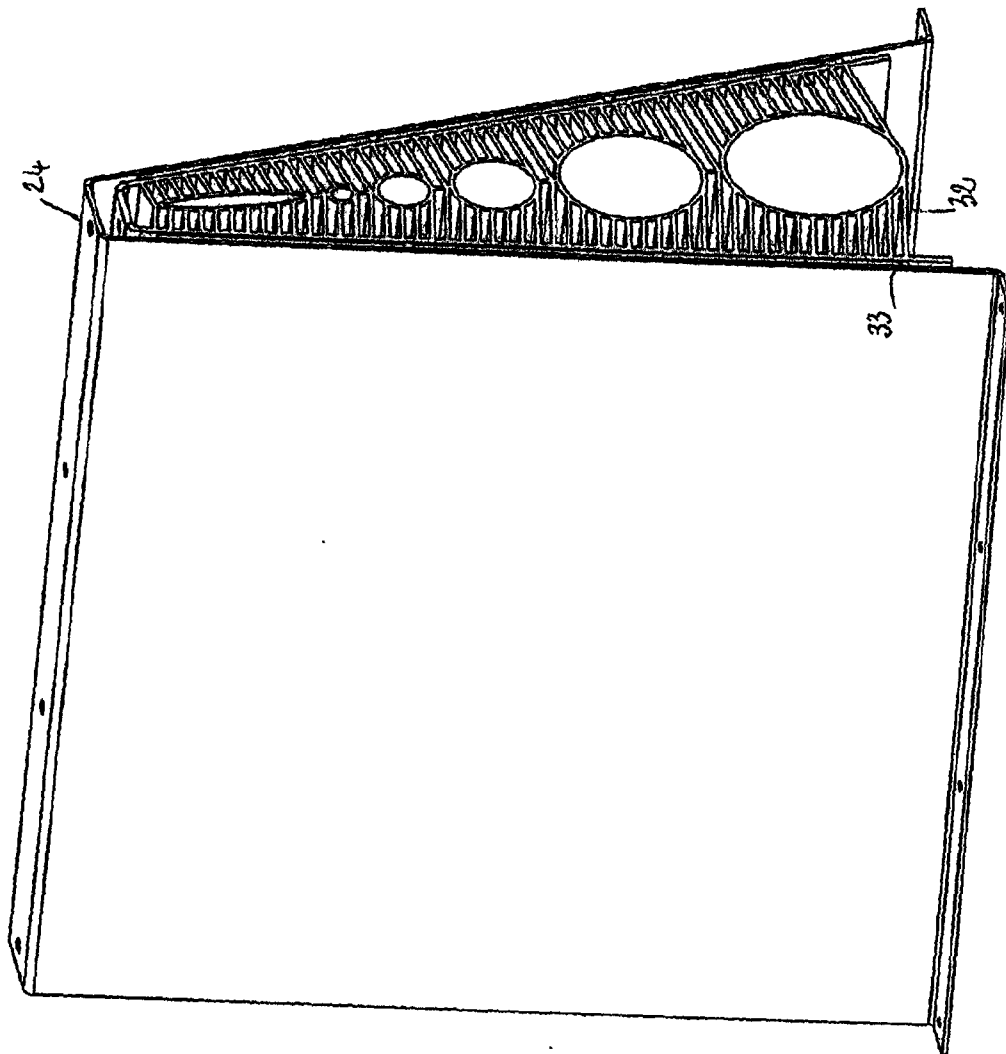


Fig. 28



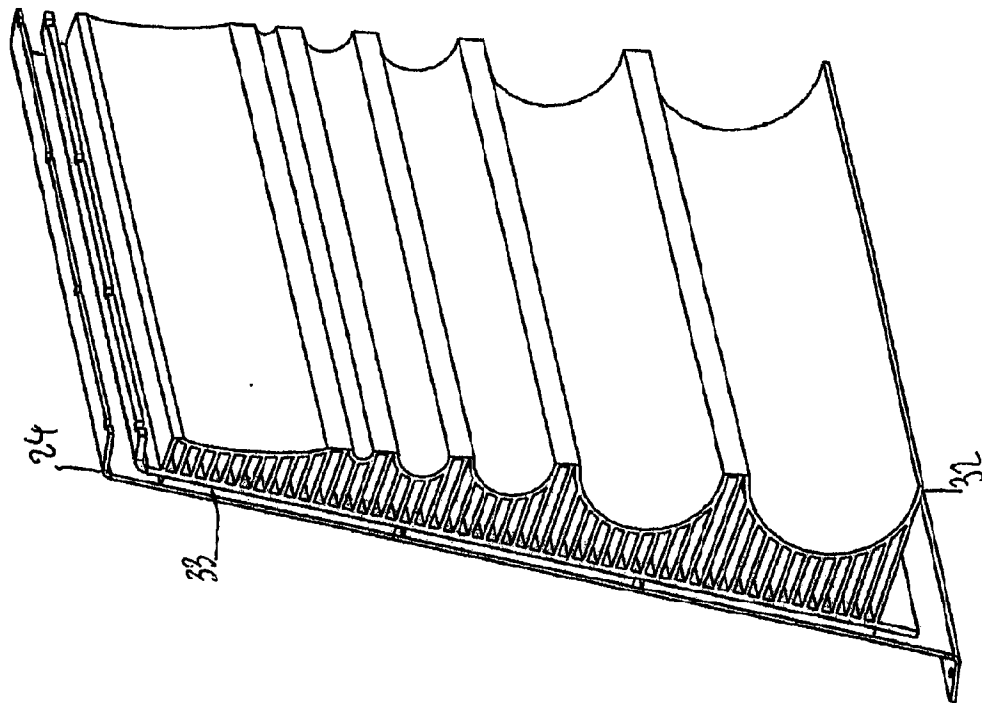


Fig. 29



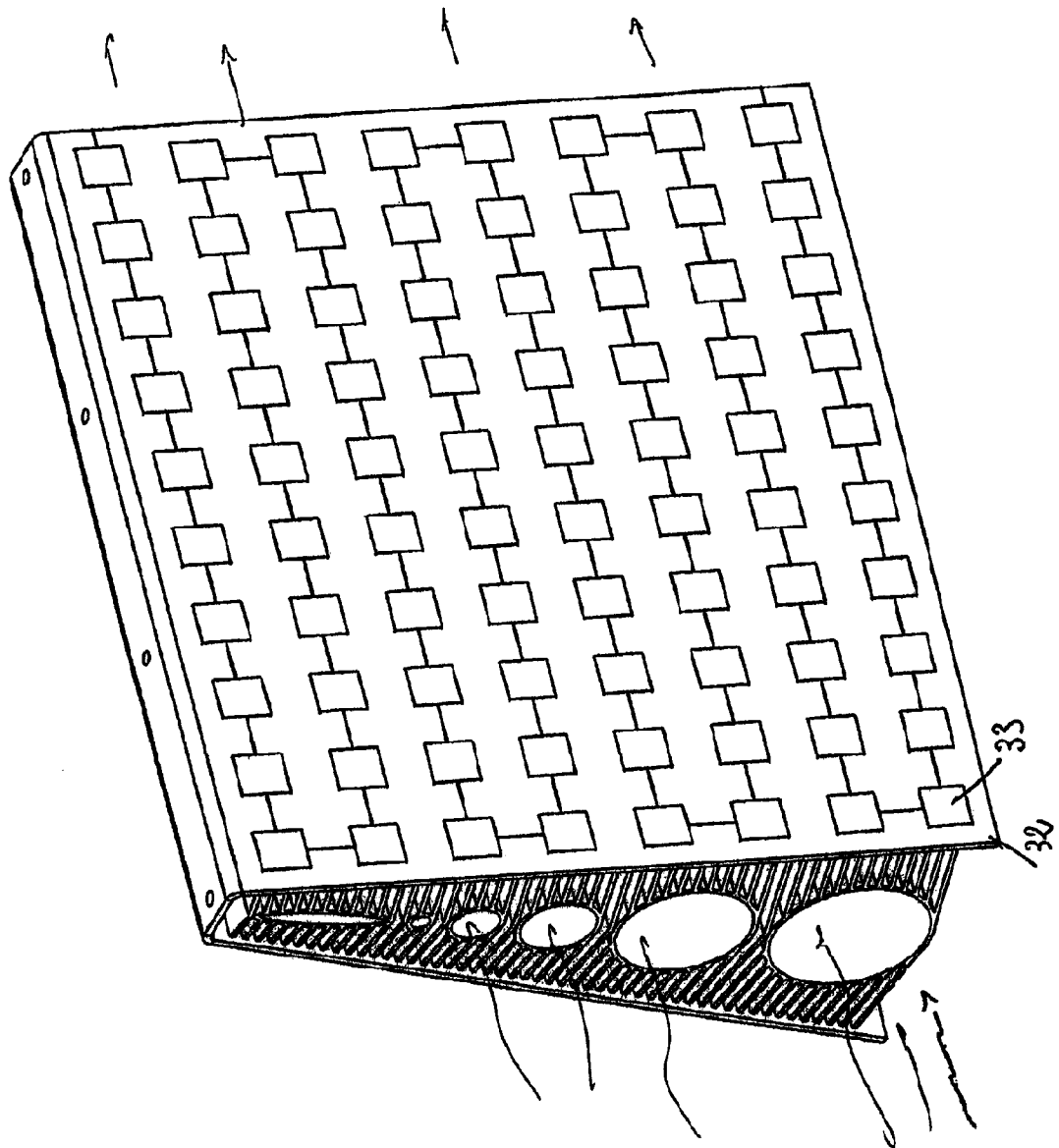


Fig. 30



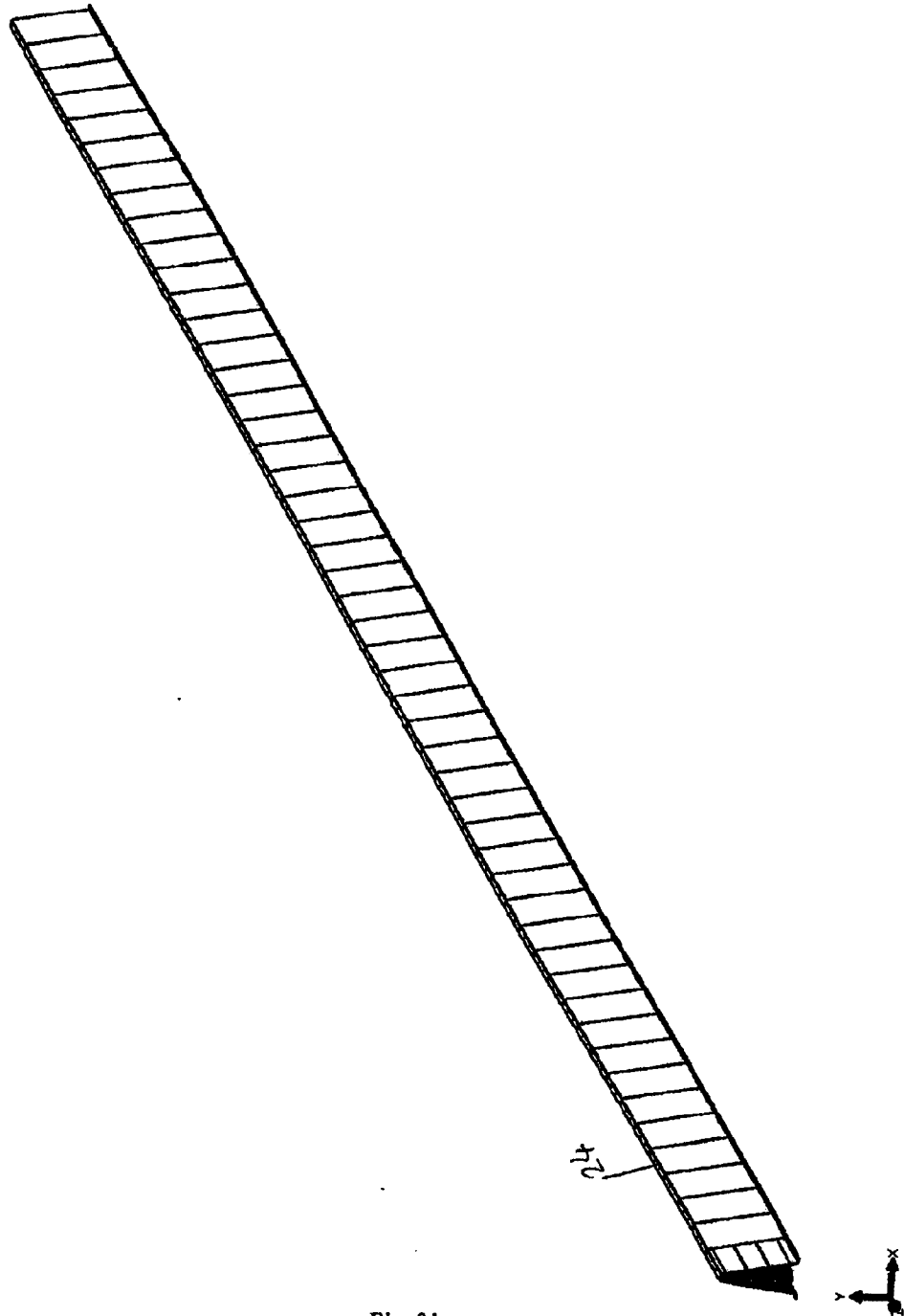


Fig. 31

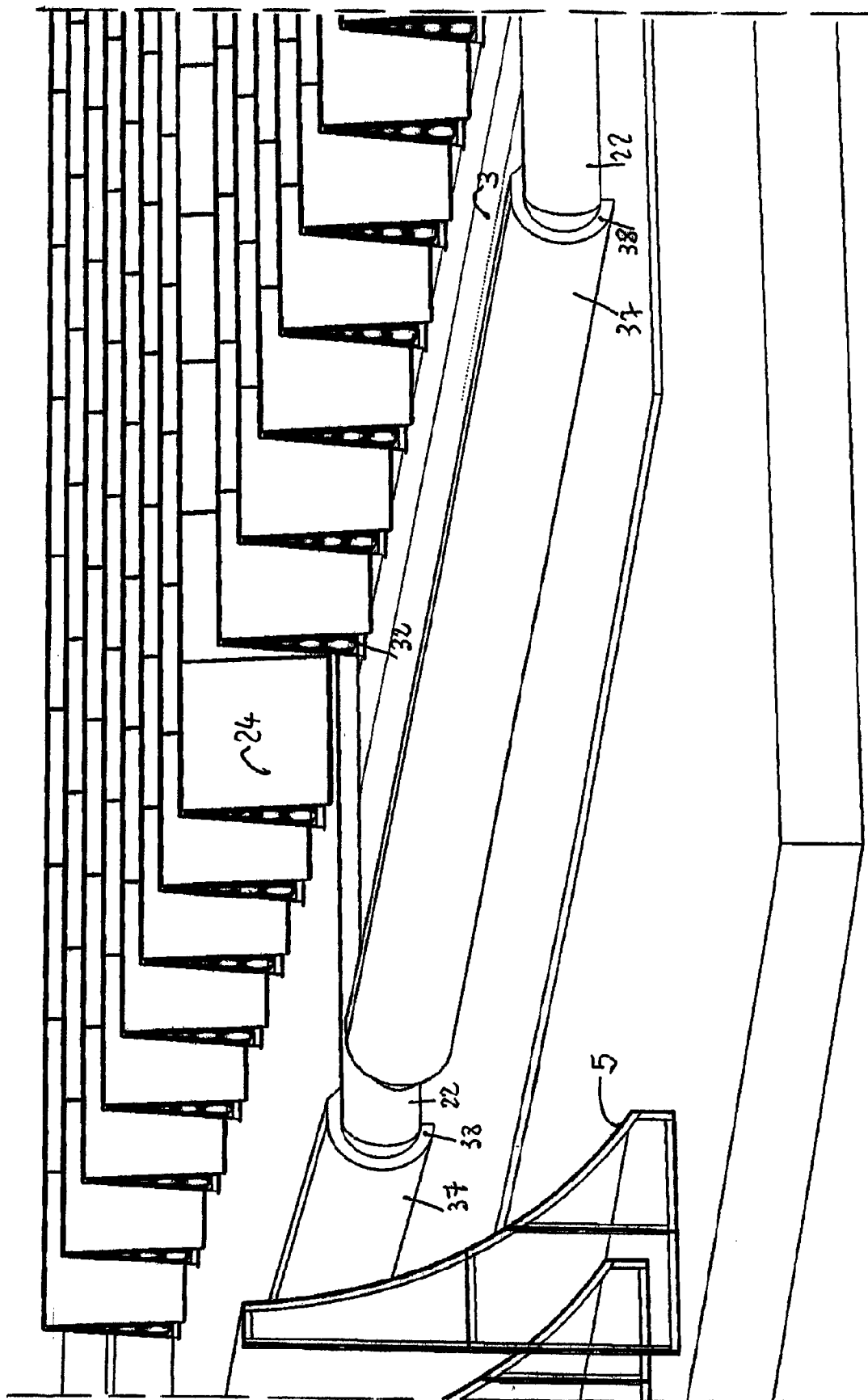


Fig. 32



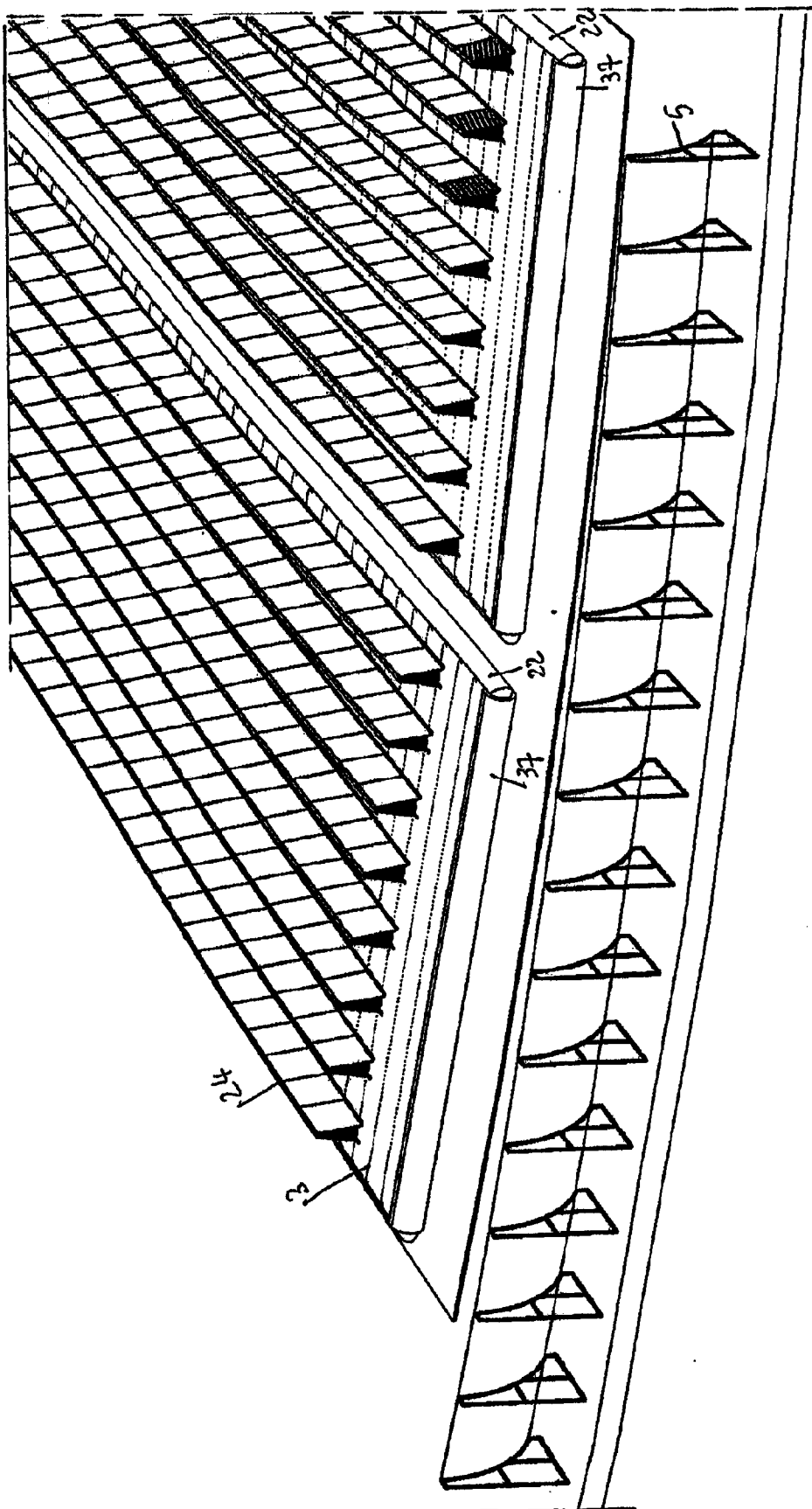


Fig. 33



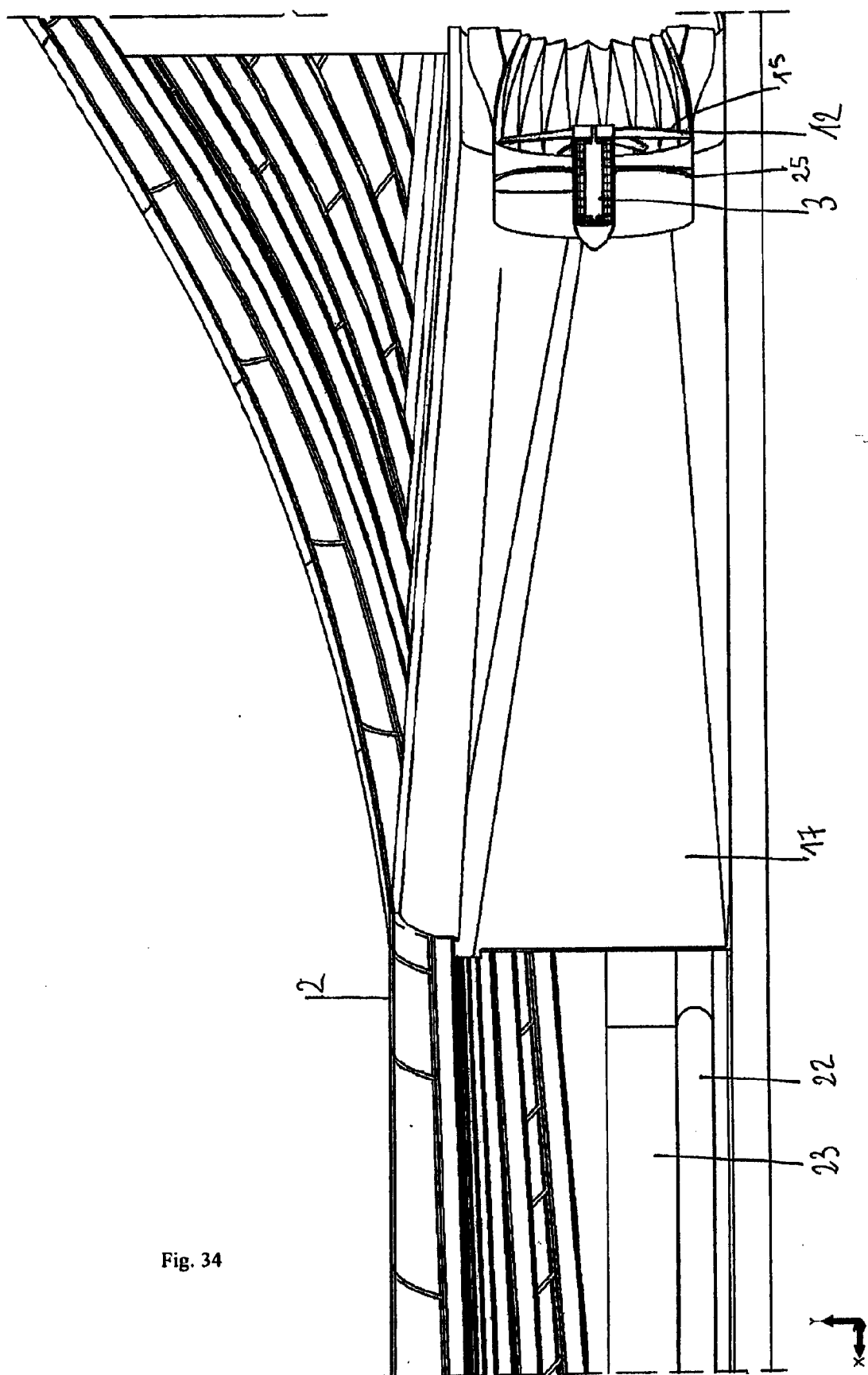


Fig. 34

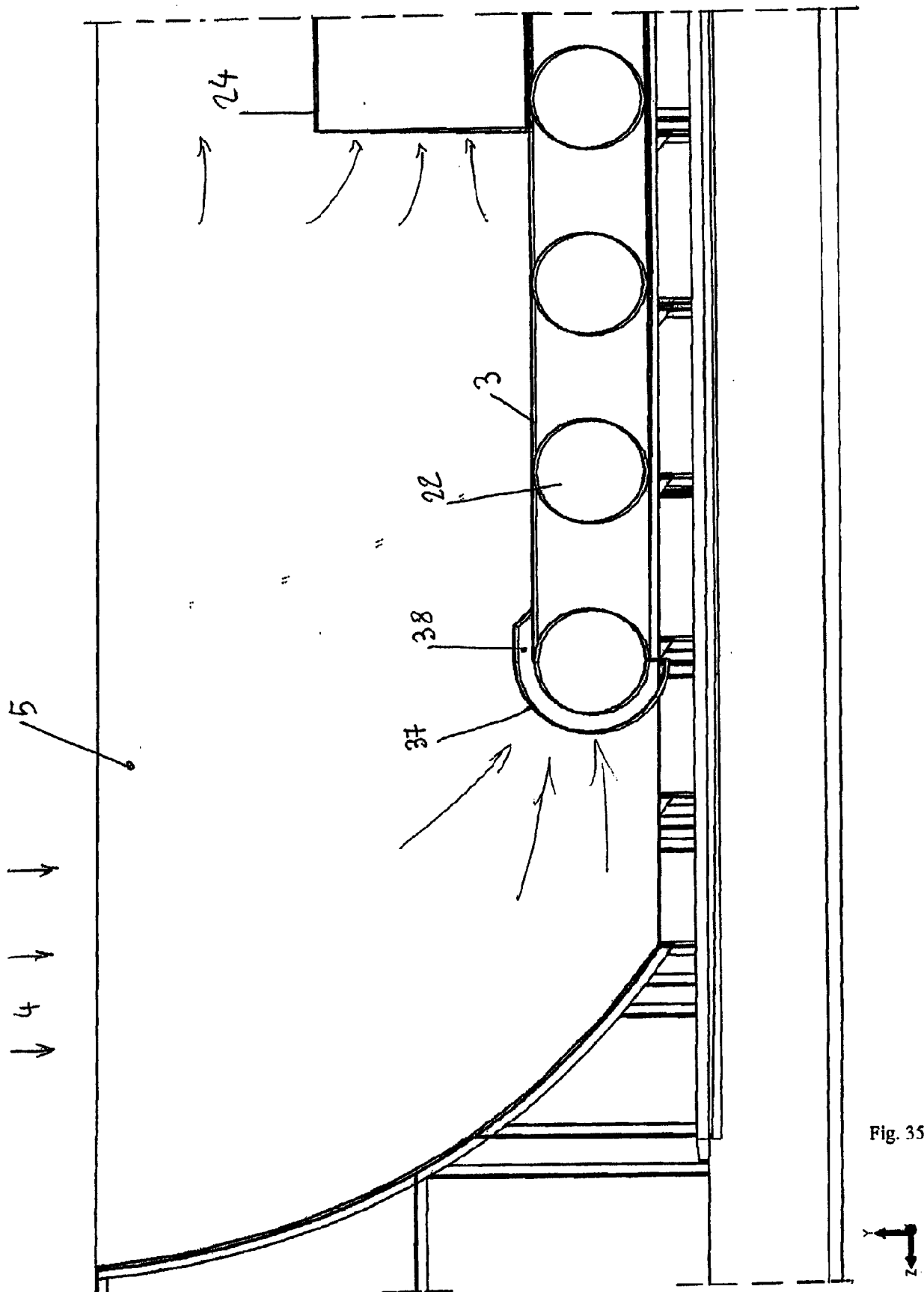


Fig. 35

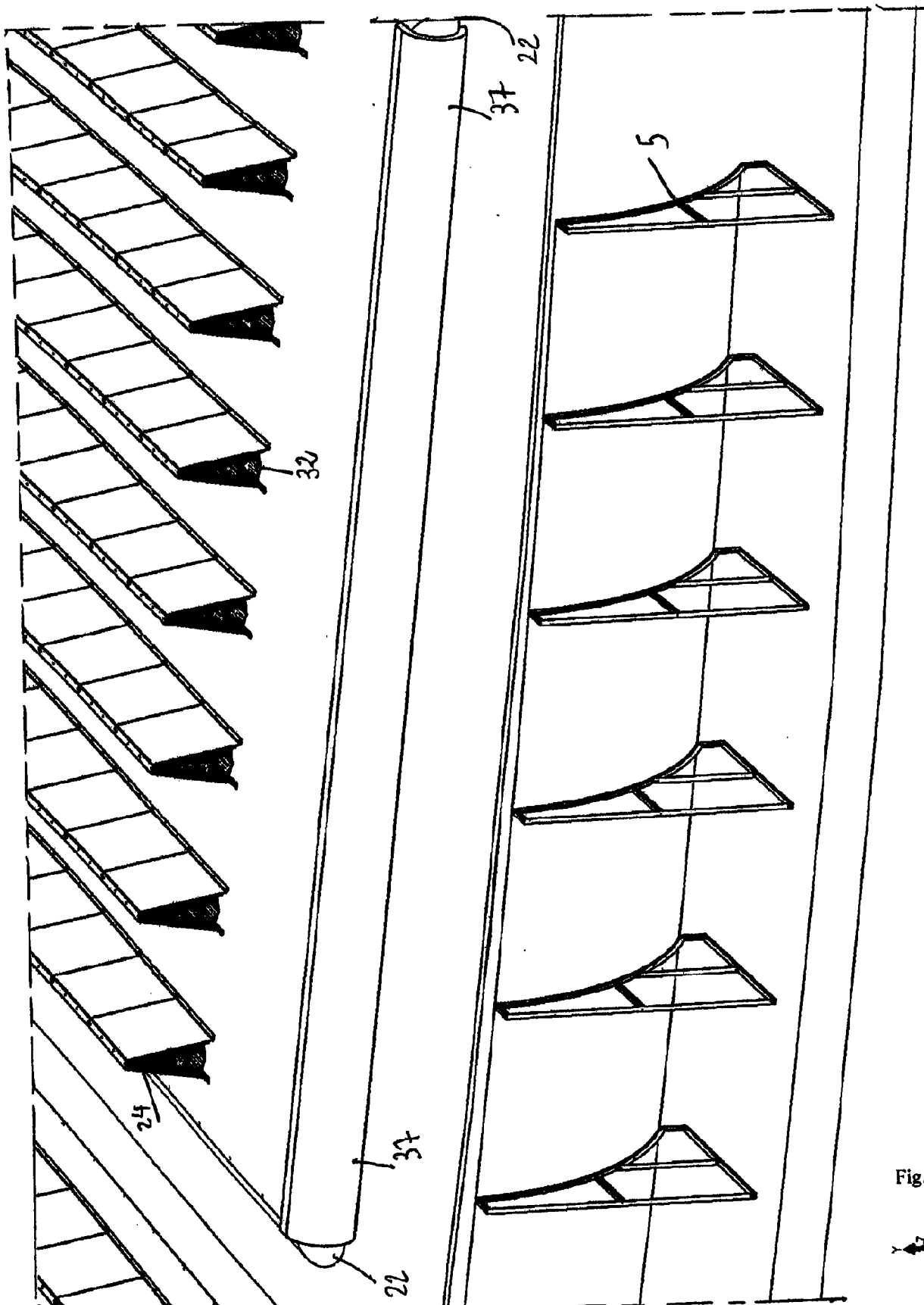


Fig. 36



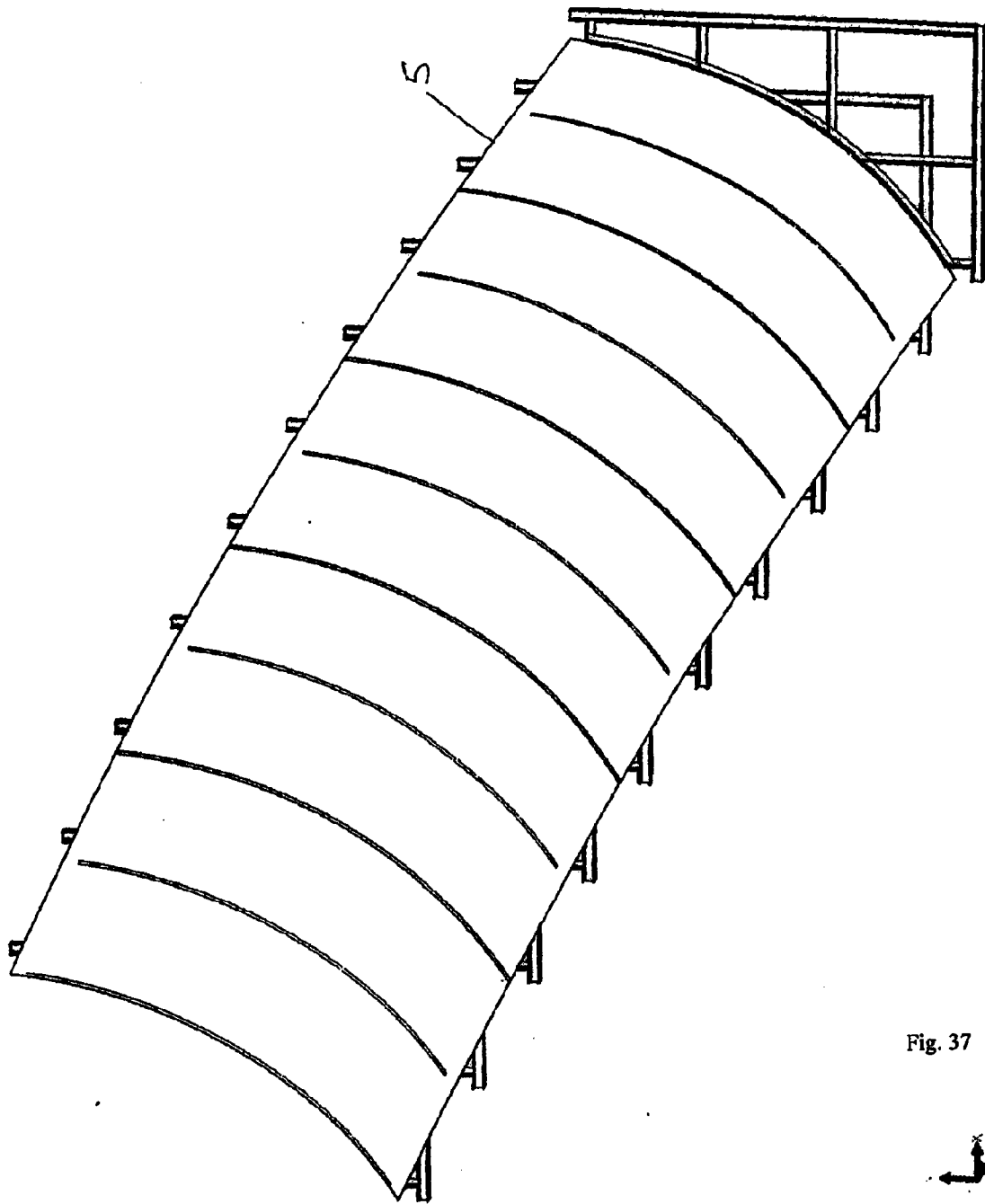


Fig. 37