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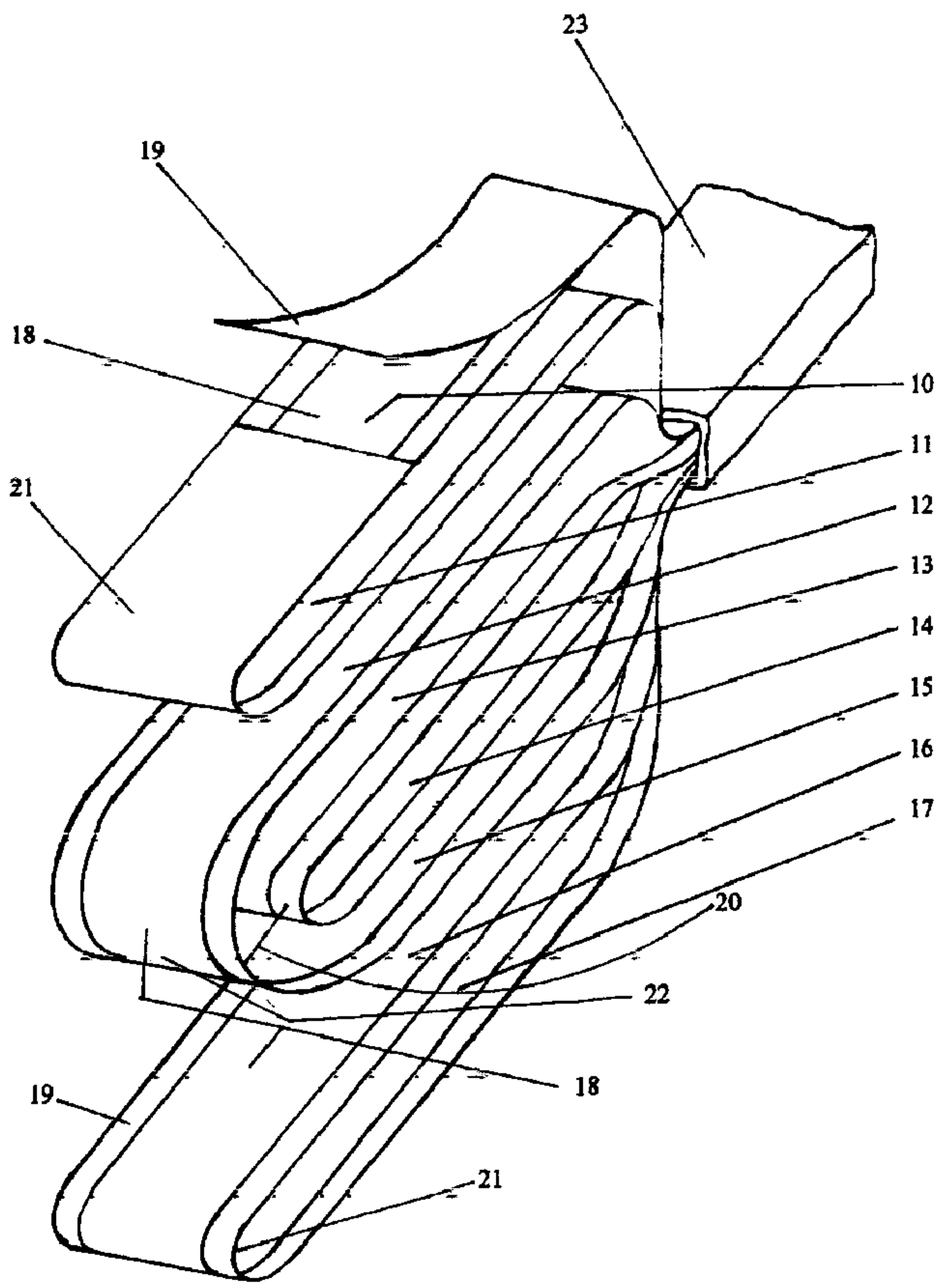
(54) **Titre :** CABLE DE TRANSMISSION DE SIGNAUX ET DE TRANSPORT D'ELECTRICITE A TRANSFERT DE CHARGE
(54) **Title:** A CHARGE TRANSFER POWER AND SIGNAL TRANSMISSION CABLE



(57) **Abrégé/Abstract:**
A charge transfer zero loss power and signal transmission cable comprising, eight lengths of an electric conducting material (18), being layered in alignment, one on top of the other, each of which can be electrically jointed to give any required length. Each of the

(57) Abrégé(suite)/Abstract(continued):
conductive layers is separated from each other by alternate layers of a dielectric material (19). The conductive layers (10-17) are formed into a charging folded closed loop (20) and a discharging folded closed loop (20) with the apex of the fold (22) of each folded closed loops in opposition to each other, being the ends of the cable, are separated from each other by a dielectric material (19), thereby making capacitive contact and is the means to transfer an electric charge from the said charging loop to the discharging loop, thereby transmitting an alternating current from a power supply to a point of transmission, with substantially zero resistance, by the said two charging and discharging loops, thereby transmitting power from a power supply over a given distance, to a point of transmission with zero power loss.

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(54) **Title**: A CHARGE TRANSFER ZERO LOSS POWER AND SIGNAL TRANSMISSION CABLE

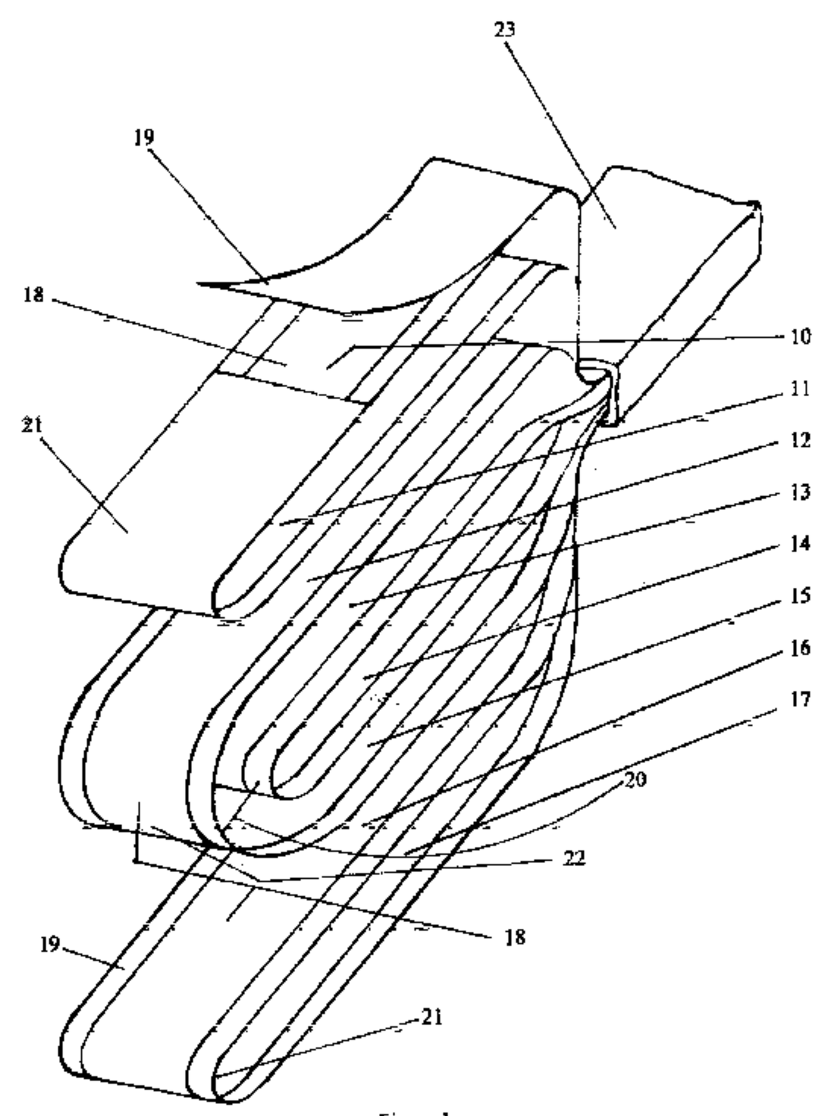

Figure 1

(57) **Abstract**: A charge transfer zero loss power and signal transmission cable comprising, eight lengths of an electric conducting material (18), being layered in alignment, one on top of the other, each of which can be electrically jointed to give any required length. Each of the conductive layers is separated from each other by alternate layers of a dielectric material (19). The conductive layers (10-17) are formed into a charging folded closed loop (20) and a discharging folded closed loop (20) with the apex of the fold (22) of each folded closed loops in opposition to each other, being the ends of the cable, are separated from each other by a dielectric material (19), thereby making capacitive contact and is the means to transfer an electric charge from the said charging loop to the discharging loop, thereby transmitting an alternating current from a power supply to a point of transmission, with substantially zero resistance, by the said two charging and discharging loops, thereby transmitting power from a power supply over a given distance, to a point of transmission with zero power loss.

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A Charge Transfer Power and Signal Transmission Cable

When electric energy is transmitted by a conductor it loses energy as heat due to the resistance of the conductor and produces an electromagnetic field. Therefore no matter for what purpose when electric energy is transmitted along a conductor, whether for signalling or to supply electric energy from one point at another, as the conductor length increases, the energy losses increases. To limit the power losses due to heat the power being transmitted the voltage is stepped up by a transformer to reduce the transmitted current thereby reducing heat losses. Stepping up the voltage, increases electromagnetic radiation, this can be harmful and is associated with leukaemia in children.

Super conductors have been developed to reduce these losses, but superconductivity requires supplementary equipment to providing the necessary cooling to make a super conductor super conductive. This cooling requires energy and because of the bulk of this cooling equipment limits the use of superconductors. Super conductors and its necessary supplementary equipment is expensive, therefore its use limited to where it is economically viable.

The invention is A Charge Transfer Power and Signal Transmission Cable comprising two folded closed continuous electrical loops. And each folded closed continuous electrical loop is comprised of an electric conducting material being formed into a closed continuous electrical loop by being folded into two half loops forming the folded closed continuous electrical loop. The outer perimeter of the two half loops are insulated from each other by a dielectric material as means to prevent any electric contact when the two half loops are folded, forming the folded closed continuous electrical loop. The inner perimeter of the folded closed continuous electrical loop is provided with a dielectric material to prevent any electrical contact of the inner perimeter of the electric conducting material of the folded closed continuous electrical loop. Each half loop of each folded closed continuous electrical loop is the length of the charge transfer zero loss power and signal transmission cable. One of the folded closed continuous electrical loops is a charging folded closed continuous electrical loop and the other is the discharging folded closed continuous electrical loop. The apex of the fold of each of the two folded closed continuous electrical loops is the ends of the charge transfer zero loss power and signal transmission cable and are provided with connectors to connect the charging and discharging folded closed continuous electrical loops to a power supply and a point of electric power transmission respectively. The two half loops of one of the folded closed continuous electrical loop is arranged in alignment inside the other two half loops of the other folded closed continuous electrical loop. They are separated from each other by a dielectric material so that the outer surfaces of the inner folded closed continuous electrical loop only makes capacitive contact with the inner surface of the outer folded closed continuous electrical loop. Or the charging and discharging folded closed continuous electrical loop is arranged side by side so that the edges of each layer of electric conducting material of the charging and discharging folded closed continuous electrical loop being in alignment

with each other, but separated by an appropriate gap. So that the folded closed continuous electrical loops are not in electrical contact with each other, but sufficiently close to utilizes the generated electric field of the charge, usually associated with the corona of a capacitor. The apex of the fold of each of the two folded closed continuous electrical loops are the ends of the charge transfer zero loss power and signal transmission cable and are provided with connectors to connect the charging and discharging folded closed continuous electrical loops to a power supply and a point of electric power transmission respectively. The side by side arrangement of the folded closed continuous electrical loops whereby the charging folded closed continuous electrical loop is discharged to the discharging folded closed continuous electrical loop from the electric field of the charging folded closed continuous electrical loop by induction. In this case because the charge is not transferred through the dielectric material, but by the electric field, this configuration can transmit electric energy in the form direct current as well as alternating current at a constant voltage.

The arrangement of the charging and discharging folded closed continuous electrical loops causes the alternating current of each half cycle of charging alternating current, or the direct current charging the charging folded closed continuous electrical loops of the cable, to have opposing alternating current flow, inducing opposing electrical fields, which perhaps creates a neutral zone or neutral zones in the structure of the electric conducting material, so that the charging electrons can flow unimpeded with no resistance, charging the dielectric of the charging folded closed continuous electrical loop. The charge is then transferred through the dielectric material or the gap separating the charging and discharging folded closed continuous electrical loops to the discharging folded closed continuous electrical loop, again, causing the discharging alternating current or direct current to have opposing alternating current flow, inducing opposing electric fields, creating a neutral zone or neutral zones in the structure of the electric conducting material, so that the discharging electrons can flow unimpeded with no resistance, resulting in the charge transfer zero loss power and signal transmission cable.

The size of the zone or zones and the amount of electrons flowing through the zone or zones are directly related to the capacitance of the charge transfer zero loss power and signal transmission cable, the transmission direct voltage or alternating voltage and frequency of the transmission voltage. The charge transfer zero loss power and signal transmission cable transmits electric energy in the form of a pure capacitive charge, along its length, as a zero loss alternating or direct current at constant voltage. When transmitting electric energy as an alternating current, the current is directly related to the transmission alternating voltage, its frequency and its capacitance, and when transmitting electric energy as a direct current, the current is directly related to its voltage and capacitance. Thereby the power being transmitted is zero loss through the said charge transfer zero loss power and signal transmission cable.

The Charge Transfer Power and Signal Transmission Cable is explained with the following drawings.

Figure 1 shows in perspective an end section of the charge transfer zero loss power and signal transmission cable with the layers of conducting and dielectric materials separated to show their arrangement to form the one end of each of the folded closed continuous electrical loops.

Figure 2 shows a side view of the cable with the layers of electric conducting materials arranged for the first embodiment of the invention.

Figure 3 shows a side view of the cable with the layers of electric conducting materials arranged for the second embodiment of the invention.

Figure 4 shows a side view of the side by side arrangement of the folded closed continuous electric forming the third embodiment of the invention.

Figure 5 shows in perspective an end section of the side by side arrangement of the charge transfer zero loss power and signal transmission cable, with the layers of electric conducting and dielectric materials separated to show their arrangement to form one end of each of the folded closed continuous electrical loops.

From figure 1, eight lengths of an electric conducting material 18, are layered in alignment, one on top of the other and are secured together by compression, by an adhesive. Each layer of electric conducting material can be electrically joined to give a cable of any length. Each of the layers the electric conducting material 18 is separated from each other by alternate layers of a dielectric material 19 of required dielectric constant, including the surfaces of the outer layers of the electric conducting material 18. At one end of the eight layers of electric conducting material 18, the said eight layers numbered 10, 11, 12, 13, 14, 15, 16 and 17 respectively, as in figure 1, figure 2 and figure 3.

In the first embodiment of the invention as shown in figure 2, at one end of the charge transfer zero loss power and signal transmission cable, the ends of the eight layers of electric conducting material 18, numbered 10 to17 are arranged in pairs of 10 and 17, 11 and 16, 12 and 13, and 14 and 15 are electrically joined. At the other end, the ends of the eight layers of electric conducting material 18, the eight layers are arranged in pairs of 10 and 11, 12 and 15, 13 and 14 and 16 and 17 are electrically joined forming two folded closed continuous electrical loops 20 being one inside the other in alignment with layers of electric conducting materials 11 and 12 and 15 and 16 of the folded half loops 21 of each folded closed continuous electrical loop 20, being separated by dielectric material 19 making capacitive contact with 2 areas of electric conducting material 18 and dielectric material 19.

In the second embodiment of the invention, as shown in figure 3, at one end of the charge transfer zero loss power and signal transmission cable, the ends of the eight layers of electric conducting material 18, numbered 10 to 17 are arranged in pairs of 10 and 15, 11 and 14, 12 and 13 and 16 and 17, as in figure 3 are electrically joined. At the other end, the ends of the eight layers of electric conducing material 18, are arranged in pairs of 10 and 11, 12 and 17, 13 and 16 and 14 and 15 are electrically joined forming two folded closed continuous electrical loops 20 with each half loop 21 of the folded closed continuous electrical loops 20 arranged alternately one inside the other of the two half loops 21 of the folded closed continuous electrical loops 20 in alignment with layers of electric conducting materials 11 and 12, 13 and 14 and 15 and 16 of the folded half loops 21 of each folded closed continuous electrical loop 20, being separated by dielectric material 19 making capacitive contact with 3 areas of electric conducting material 18 and dielectric material 19.

In the third embodiment of the invention as shown in figure 4 and figure 5 the charge transfer zero loss power and signal transmission cable comprises one pair of 4 layers of electric conducting materials 18 being laid with edges in alignment side by side separated by a gap 24. Each layer of the pair of electric conducting material 18 are separated by a common dielectric material 19 and are secured together by compression, by an adhesive. Each layer of the pair of electric conducting material 19 are numbered 10, 11, 12 and 13 and 14, 15 ,16 and 17 respectively. At one end of the cable, the layers of electric conducting material 18 numbered 10 to 13 and 14 to 17 are arranged in pairs of 10 and 13, 11 and 12, 14 and 15 and 16 and 17 and are electrically joined. At the other end of the charge transfer zero loss power and signal transmission cable, the layers electric conducting materials 18 layers 10 to 13 and 14 to 17 are arranged in pairs of 10 and 11, 12 and 13, 14 and 17 and 15 and 16 and are electrically joined. Forming two side by side folded closed continuous electrical loops 20 with the ends of each folded closed continuous electrical loop 20 in alignment separated by a gap 24.

In all three embodiments of the invention, the apex of the fold 22 of each of the two folded closed continuous electrical loops 20, being the ends of the charge transfer zero loss power and signal transmission cable are provided with connectors (not shown), with one of the folded closed continuous electrical loops 20 being the charging folded closed continuous electrical loop and the other of the folded closed continuous electrical loops 20 being the discharging folded closed loop. When the charging folded closed continuous electrical loop 20 is connected to a power supply and the discharging folded closed continuous electrical loop 20 is connected to a point of electric power transmission. The current at a constant voltage from the power supply flows in opposition in the half folds 21 of the charging folded closed continuous electrical loop 20 causing an opposing electric field, creating a neutral zone or neutral zones in the structure of the electric conducting material 18, so that the charging electrons can flow unimpeded with no resistance, charging the charging folded closed continuous electrical loop 20.

When charged, the charge from the charging folded closed continuous electrical loop 20 is transferred to the discharging folded closed continuous electrical loop 20 through the dielectric material 19 in the cases of embodiments 1 and 2 of the invention. In the case of the third embodiment of the invention the charge from the charging folded closed continuous electrical loop 20 is transferred across the gap 24 by means of the electric field at the edges of the electric conducting material 18. The charge in the discharging folded closed continuous electrical loop 20 causes an opposing field in the half folds 21 of the discharging folded closed continuous electrical loops 20, when the charge is being discharged as a current to the load, creating a neutral zone or neutral zones in the structure of the electric conducting material 18, so that the discharging electrons can flow unimpeded with no resistance, resulting in electric power being transmitted through the charge transfer zero loss power and signal transmission cable with zero power loss at a constant voltage.

The folded closed continuous electrical loops are enclosed with a layer of dielectric material (not shown) which is in turn enclosed by a layer of an electric conducting material (not shown) as charge containment. All of which is enclosed in suitable protective covering 23 to protect the charging and discharging folded closed continuous electrical loops from the environment in which the folded closed continuous electrical loops will operate. The covering can include an electric conducting material (not shown) to protect the folded closed continuous electrical loops from electric interference and the electric conducing material can be connected to earth, to conduct to earth any induced currents due lightening discharge, preventing power surges. The size of the zone or zones of the electric conducting material of the charge transfer zero loss power and signal transmission cable and the amount of electrons flowing through the zone or zones and hence the amount of current transmitted through the charge transfer zero loss power and signal transmission cable as an alternating current I amps is directly related in the following way,

$$I = 2\pi fCV$$

Where,

I amps = the transmitted current, f hertz = the frequency of the alternating current of the power supply, V volts = the supply voltage and C farads = the capacitance of the zero power loss AC power and signal transmission cable.

The capacitance C farads is related to the dimensions of the electric conducing material and the dielectric material for each embodiment of the invention in the following way:

The first embodiment

$$C = KoKW2L/d \quad \text{farads}$$

and W = the width of each layer of the electric conducting material (figure 1)

L = length of cable (figures 2, 3 and 4)

d = thickness of the dielectric material

K = dielectric constant

Ko = permittivity of a vacuum

The second embodiment

$$C = KoKW3L/d \quad \text{farads}$$

The third embodiment

$$C = KoKW2L/d \quad \text{farads}$$

With the third embodiment, The size of the zone or zones of the electric conducting material of the charge transfer zero loss power and signal transmission cable and the amount of electrons flowing through the zone or zones and hence the amount of current transmitted through the charge transfer zero loss power and signal transmission cable as a direct current I amps is directly related in the following way,

$$I = CV/t$$

Where t is time taken for the charge to be transmitted from the power supply to the load. The charge transfer zero loss power and signal transmission cable transmits electric energy in the form of a pure capacitive charge, along its length per cycle, as electric power, that is directly related to transmission alternating voltage and current I amps in the following way:

$$P = IV = 2\pi fCV^2$$

Where:

P = transmission power (watts)

V = transmission AC voltage (volts)

f = frequency of transmission voltage (hertz)

The charge transfer zero loss power and signal transmission cable transmits electric energy in the form of a pure capacitive charge, along its length, as electric power, that is directly related to transmission direct voltage and current I amps in the following way:

$$P = IV = CV^2/t$$

The relationships of alternating current and power have no resistance or inductance functions, therefore the power being transmitted has zero power loss, through the cable and there will zero or negligible electromagnetic radiation. In addition the as the transmission distance increases, the length L of the cable increases. And for a constant width of electric conducting material 18, the capacitance of the charge transfer zero loss power and signal transmission cable will increase, since the capacitance C farads is:

$C = KoKW2L/d$ farads, for the first and third embodiments

And $C = KoKW3L/d$ farads, for the second embodiment.

And $P = 2\pi fCV^2$ watts for alternating current

$P = IV = CV^2/t$ for direct current

Therefore as the transmission distance increases the more power the charge transfer zero loss power and signal transmission cable can transmit. Making it possible to transmit more power over much greater distances without any power loss.

CLAIMS:

1. A charge transfer power and signal transmission cable comprising;

at least two folded closed continuous electrical loops, each having at least the same area of electric conducting material as each other,

and one of the said two folded closed continuous electrical loops, being a charging folded closed continuous electrical loop and the said charging folded closed continuous electrical loop, being provided with at least one connector, as means to connect the said charging folded closed continuous electrical loop to a power supply

and the other of the said two folded closed continuous electrical loops, being a discharging folded closed continuous electrical loop and the said discharging folded closed continuous electrical loop, being provided with at least one connector, as means to connected the said discharging folded closed continuous electrical loop to a point of electric power transmission

and the said charging and discharging folded closed continuous electrical loops being arranged in alignment with each other and the said charging and discharging folded closed continuous electrical loops being separated by at least one layer of at least one dielectric material, making capacitive contact with each other

and the said charging folded closed continuous electrical loop being the means by which a charging electric current is directed in one direction then in an opposing direction creating and opposing electric field

and the said dielectric material in capacitive contact is the means by which a charge from the said charging folded closed continuous electrical loop is transferred through the said dielectric material separating the said charging and discharging folded closed continuous electrical loops to the said discharging folded closed continuous electrical loop

and the said discharging folded closed continuous electrical loop is the means by which the discharging electric current is directed in one direction then in an opposing direction creating an opposing electric field and is discharged to a load, thereby transmitting electric power from a power supply to a point of transmission

and the said charging and discharging folded closed continuous electrical loops are suitably enclosed with at least one protective layer incorporating the means to contain the electric charges, charging and discharging the said charging and discharging folded closed continuous electrical loops and the means to protect the said charging and discharging folded closed continuous electrical loops in its operational environment.

2. A charge transfer power and signal transmission cable comprising;

at least two folded closed continuous electrical loops, each having at least the same area of electric conducting material as each other,

and one of the said two folded closed continuous electrical loops being a charging folded closed continuous electrical loop and the said charging folded closed continuous electrical loop being provided with at least one connector as means to connect the said charging folded closed continuous electrical loop to a power supply

and the other of the said two folded closed continuous electrical loops being a discharging folded closed continuous electrical loop and the said discharging folded closed continuous electrical loop being provided with at least one connector as means to connected the said discharging folded closed continuous electrical loop to a point of electric power transmission

and the said charging and discharging folded closed continuous electrical loops being arranged side by side and in alignment with each other and the said charging and discharging folded closed continuous electrical loops being separated by a gap preventing electrical contact between the said side by side arranged charging and discharging folded closed continuous electrical loops

and the said charging folded closed continuous electrical loop being the means by which a charging electric current is directed in one direction then in an opposing direction creating and opposing electric field

and the said dielectric material in capacitive contact is the means by which a charge from the said charging folded closed continuous electrical loop is transferred through the said gap separating the said charging and discharging folded closed continuous electrical loops to the

said discharging folded closed continuous electrical loop

and the said discharging folded closed continuous electrical loop is the means by which the discharging electric current is directed in one direction then in an opposing direction creating an opposing electric field and is discharged to a load, thereby transmitting electric power from a power supply to a point of electric power transmission

and the said charging and discharging folded closed continuous electrical loops are suitably enclosed with at least one protective layer incorporating the means to contain the electric charges, charging and discharging the said charging and discharging folded closed continuous electrical loops, and the means to protect the said charging and discharging folded closed continuous electrical loops in its operational environment.

3. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein;

the said charging folded closed continuous electrical loop is provided with at one connection point as means to connect the said charging folded closed continuous electrical loop to a power supply

and the said discharging folded closed continuous electrical loop is provided with at least one connection point as means to connected the said discharging folded closed continuous electrical loop to a point of electric power transmission.

4. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein,

the said charging and discharging folded closed continuous electrical loops are enclosed in at least one layer of a dielectric material and the said dielectric material enclosing the said charging and discharging folded closed continuous electrical loops are enclosed in at least one layer on an electric conducing material as electric charge containment

and the said charging and discharging folded closed continuous electrical loops enclosed in the said dielectric material and the said electric conducing material are all enclosed in a protective covering, incorporating an electric conducting material, as means to protect the said charging folded closed loop and the said discharging folded closed continuous electrical loop from induced electrical interference induced by lightening and other discharges, thereby protecting the said charging folded closed continuous electrical loop and the said discharging folded closed continuous electrical loop from power surges.

5. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein;

there is provided at least one folded closed continuous electrical loop as a charging electrode.

6. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein;

there is provided at least one folded closed continuous electrical loop as a discharging electrode.

7. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein;

the said plurality of layers of an electric conducting material and the said plurality of layers of a dielectric material forming the charging folded closed continuous electrical loops are secured together by compression by some compressive means.

8. A charge transfer power and signal transmission cable as in claim 1 or claim 2 wherein;

the said plurality of layers of an electric conducting material and the said plurality of layers of a dielectric material forming the discharging folded closed continuous electrical loops are secured together by compression by some compressive means.

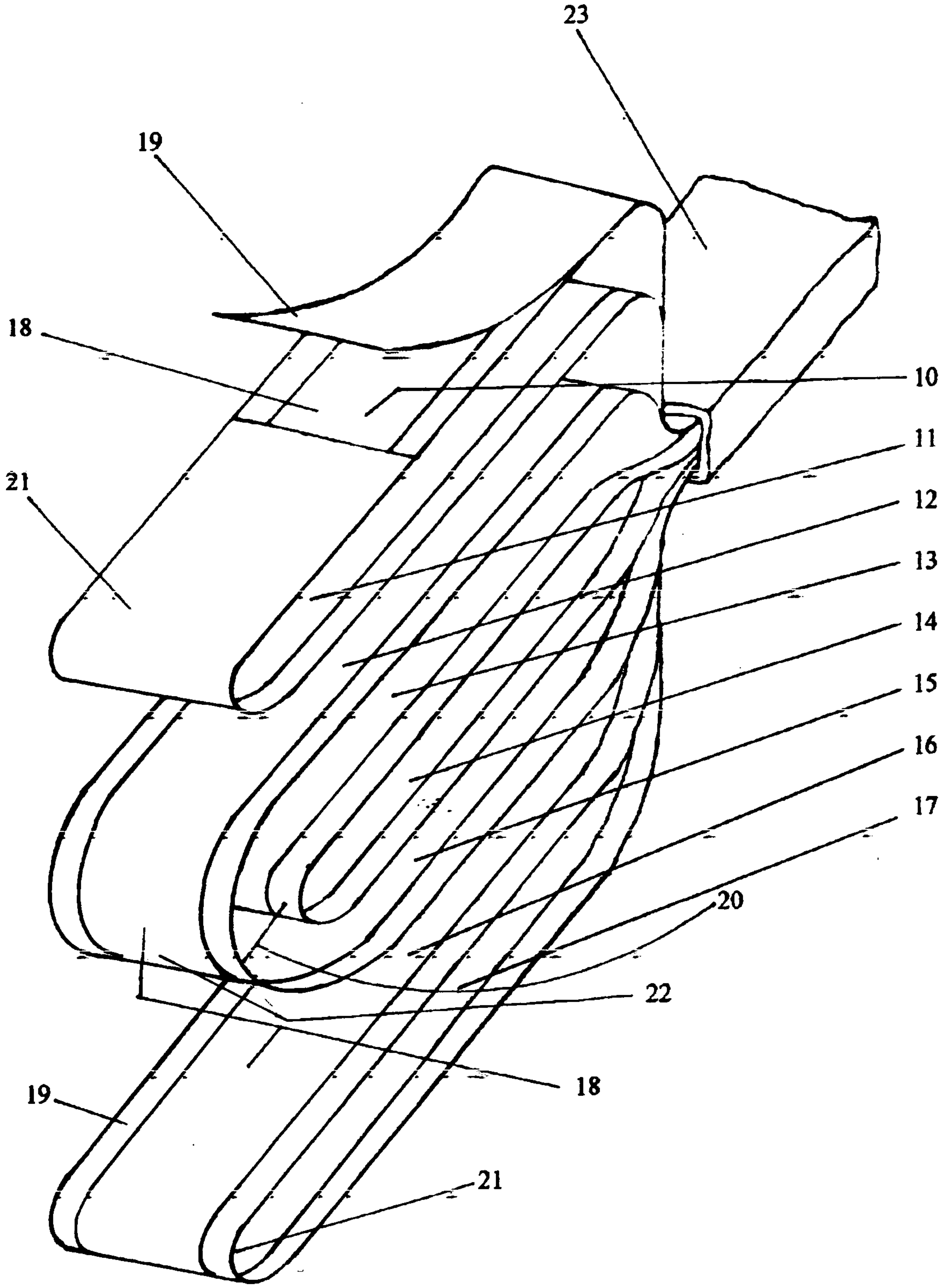


Figure 1

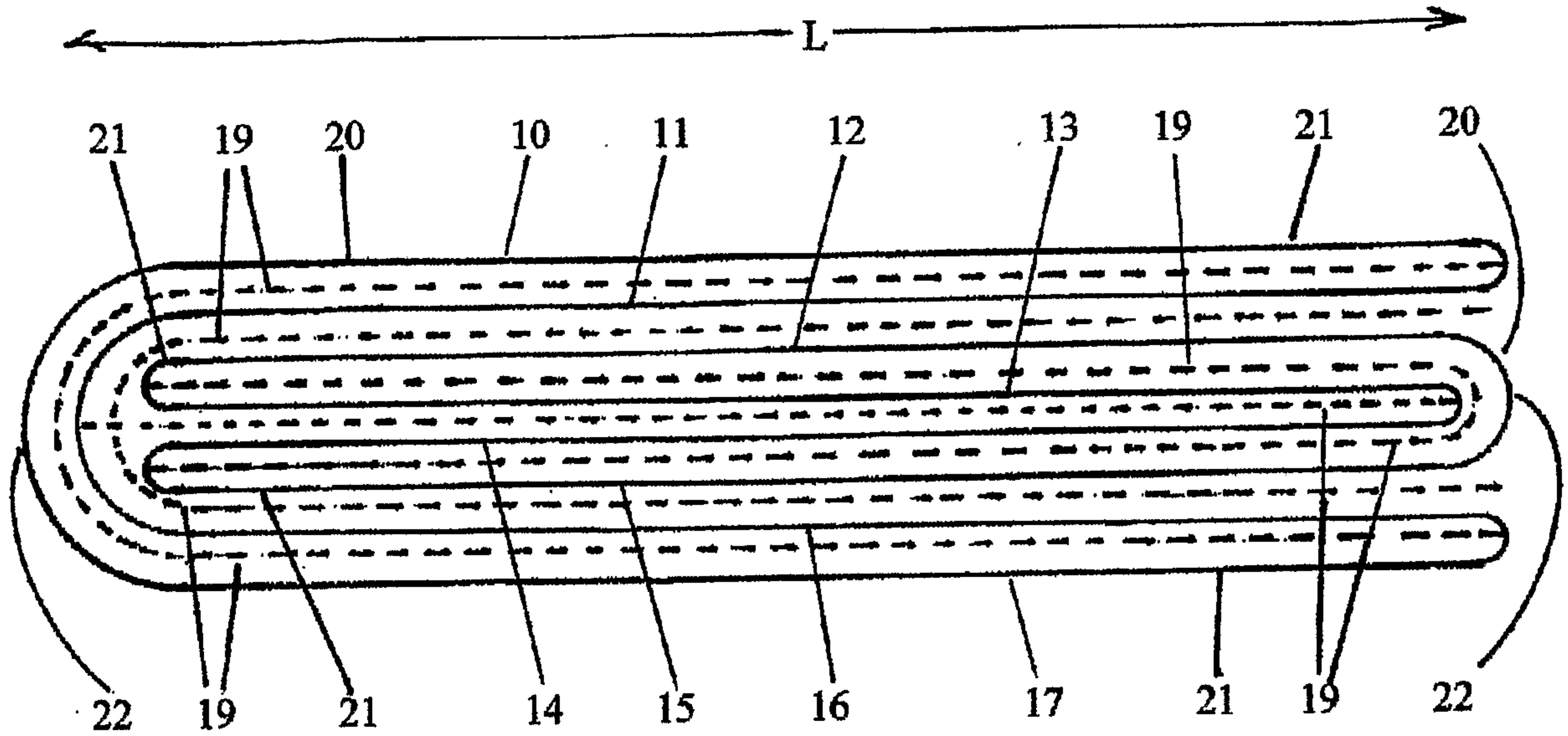


Figure 2

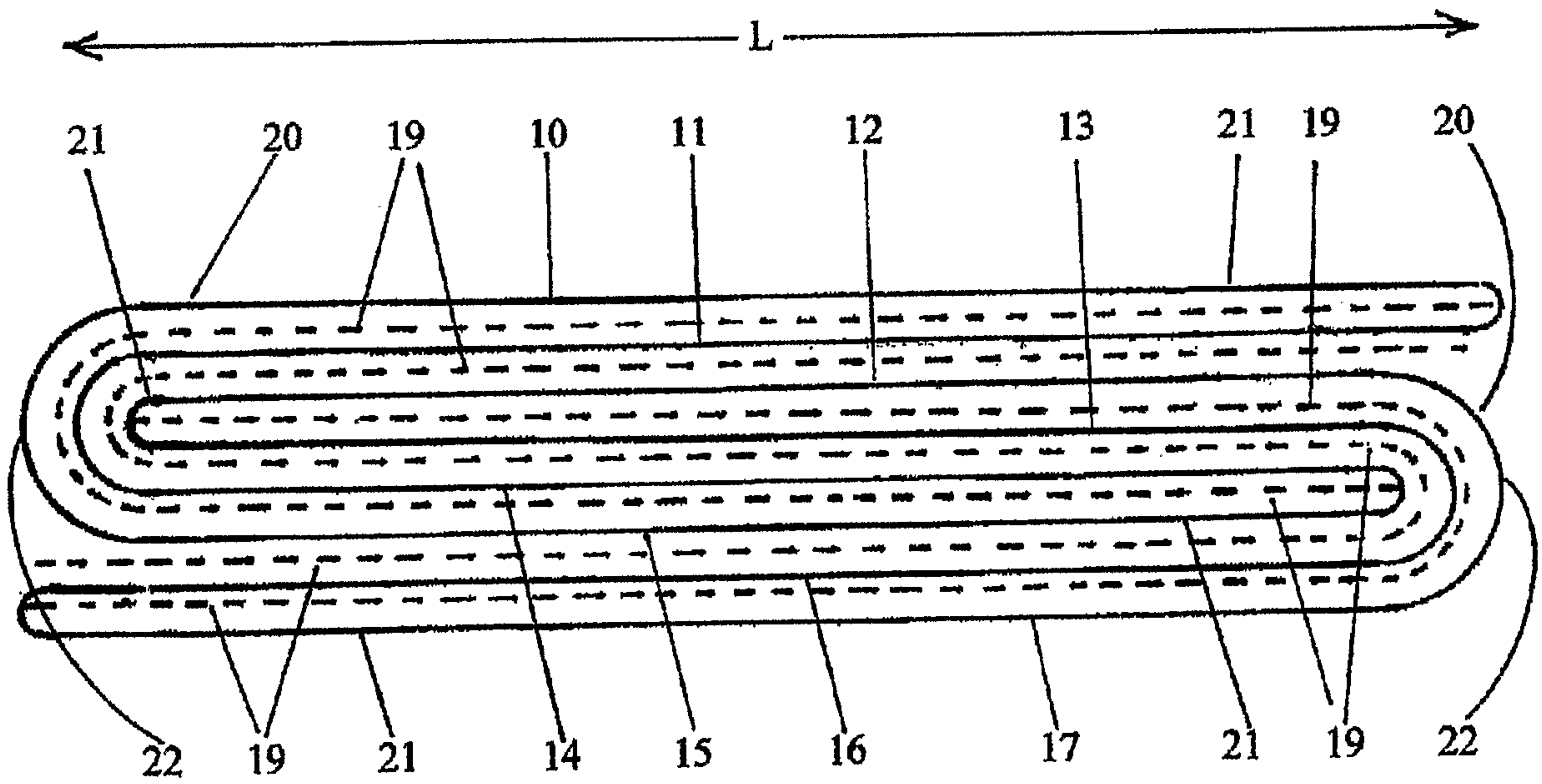


Figure 3

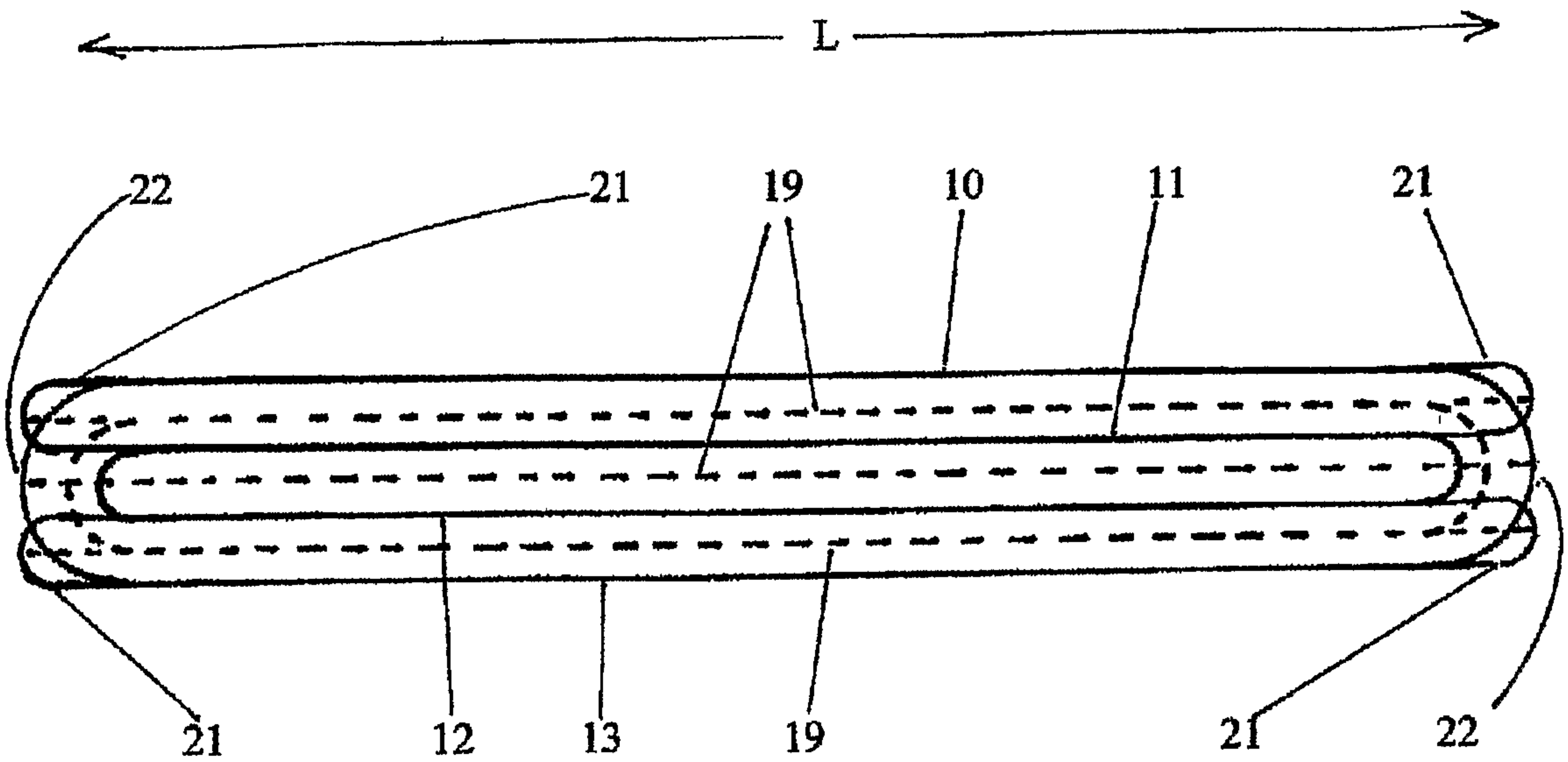


Figure 4

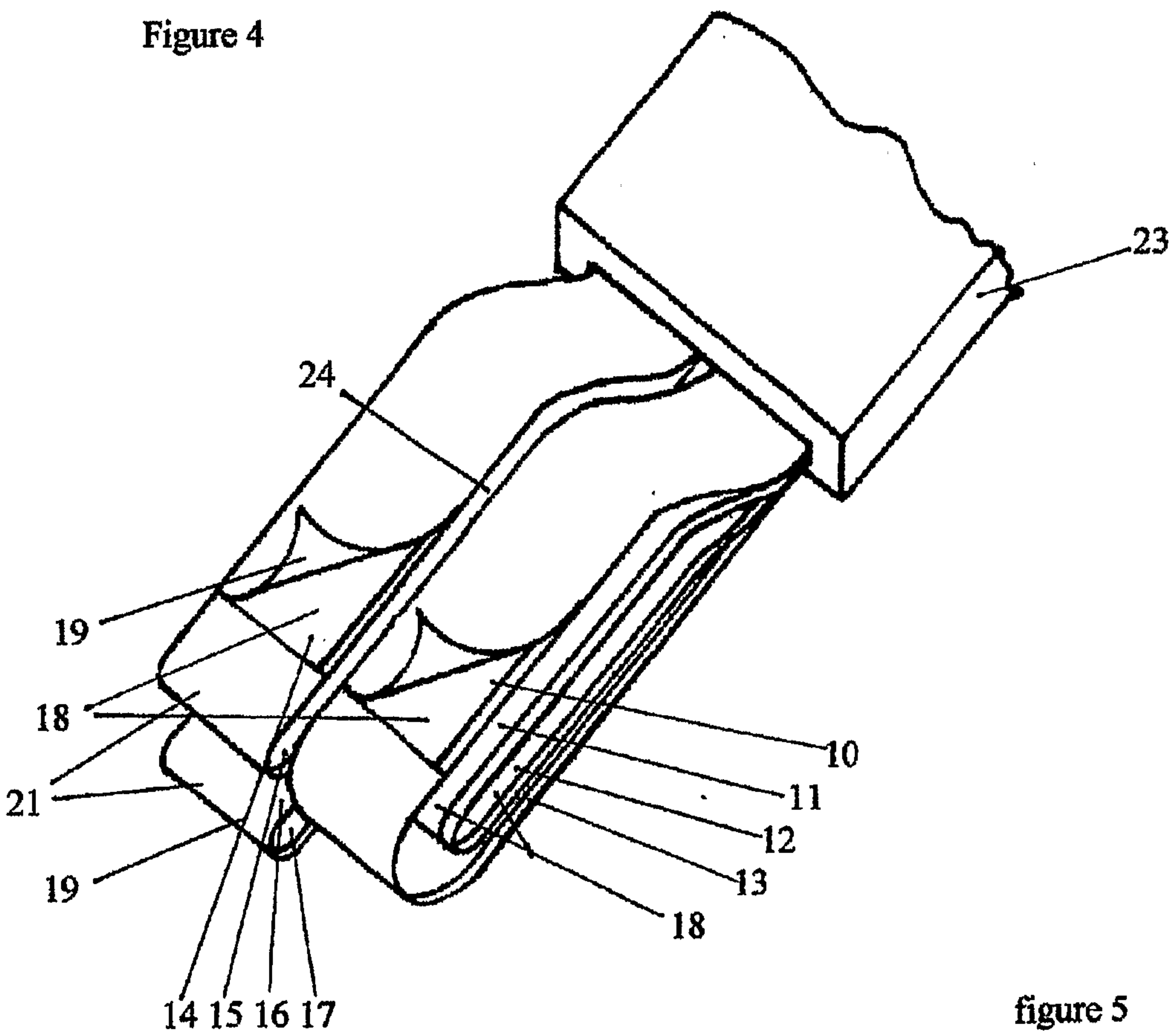
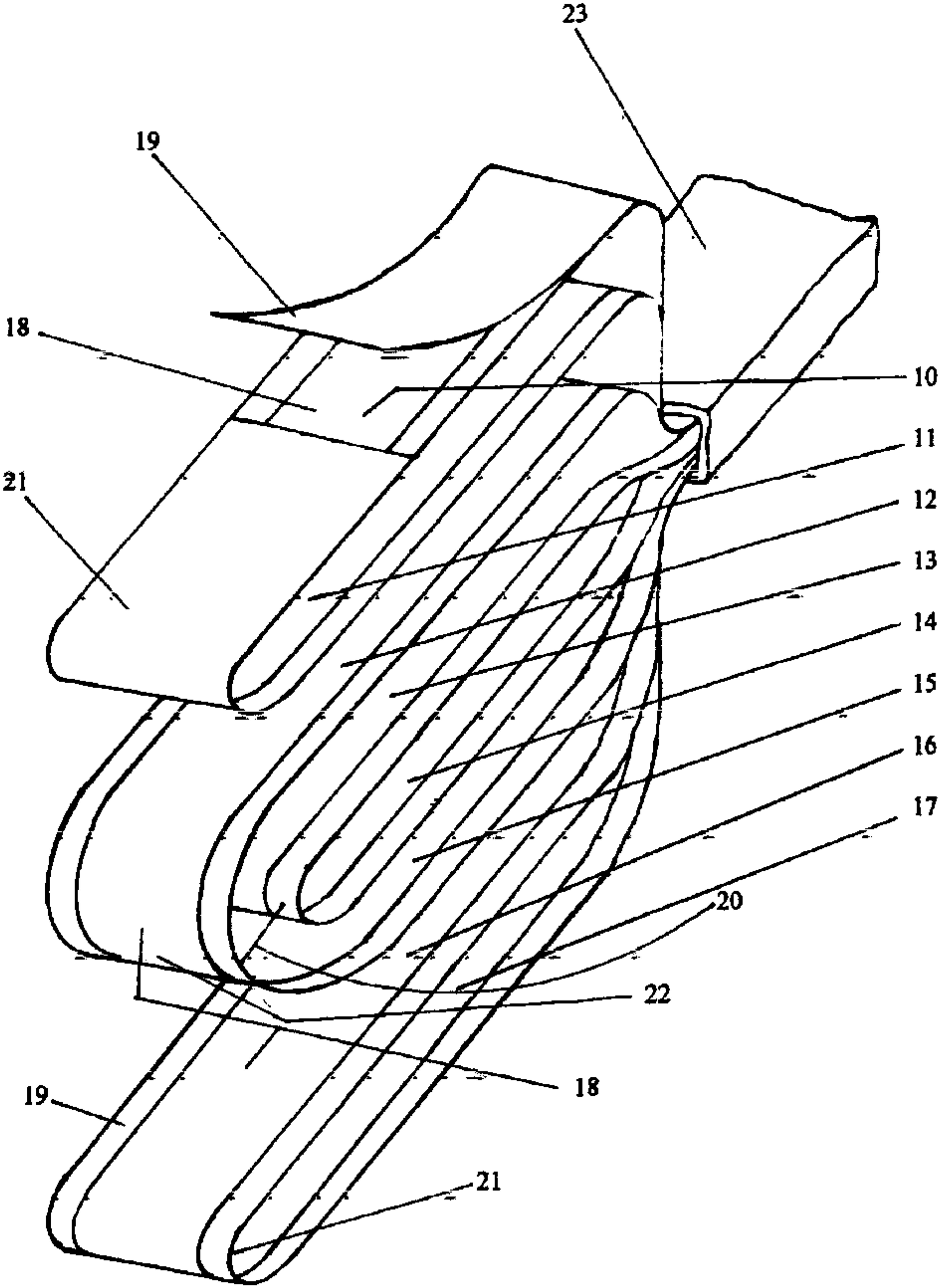


figure 5



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