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- (73) Patenthaver: **Eurozyto GmbH, Limburgerstrasse 50, 61462 Königstein, Tyskland**
- (72) Opfinder: **ROSE, Uwe-Bernd, Parkstraße 19d, 61462 Königstein, Tyskland**
- (74) Fuldmægtig i Danmark: **AWA Denmark A/S, Strandgade 56, 1401 København K, Danmark**
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The invention relates to a container, specifically a bag, for providing parenteral nutrition, having an inner space which is subdivided into separate chambers, wherein the chambers serve to receive fluids for parenteral nutrition.

In medicine, a distinction is made between enteral and parenteral nutrition. Parenteral nutrition is a form of artificial nutrition in which - as a result of an acute illness of the stomach and/or intestine - the gastrointestinal tract is bypassed. The nutrition is carried out in this instance generally via special solutions which are injected intravenously into one of the large body veins. Therefore, the solutions used for parenteral nutrition differ in terms of their composition from enteral solutions.

The administration of parenteral solutions can be carried out in different manners.

A first possibility involves the provision of industrially prefabricated multi-chamber bags in which the nutrition components are filled separately from each other in chambers. By dissolving or destroying the chamber walls shortly before administration, the components are mixed with each other. Such ready bags have a drug approval and are always identical in terms of their composition. Taking into account the individual metabolic state of a patient is thereby not possible to a sufficient degree. Additionally required nutrition components or medicaments have to be individually injected.

Alternatively, the patient in accordance with his/her metabolic state may receive an individual nutrition solution prepared in a chemist or in a production installation

permitted for this purpose in accordance with §13 AMG (German Drug Safety Act). There are provided for this purpose sterile containers which have a maximum of up to three chambers. In the case of single-chamber bags, the shelf-life of the nutrition solution is reduced to a few days. Furthermore, refrigeration is required, which leads to a costly and safety-critical handling for care services and patients. In the case of multi-chamber bags with three chambers, there is as with prefabricated bags the problem that additionally required food components or medicaments have to be individually injected.

Such multi-chamber bags are known, for example, from EP 0 619 998 B1, EP 0 893 982 B1 or EP 0 883 396 B1.

WO 2012/076690 A1 sets out closure devices for infusion bags with a plurality of chambers, wherein the chambers can be connected to each other by opening the closure devices.

EP 0 132 632 A2 discloses a bag for providing sterile components with two chambers which can be connected to each other by means of a channel which can be closed by means of clamps.

US 2002/0138066 A1 discloses a multi-chamber bag for providing a fluid for killing pathogens. The bag has an inner space which is subdivided by means of a clamping rail into several separate chambers, wherein by pulling out a strand a fluid connection can be produced.

US 2013/0108189 A1 sets out a method for producing sterile and flexible bags which are filled with a product from a folded film strip and corresponding bag.

AU 674 028 B2 discloses a multi-chamber bag which is produced from a film strip by means of a high-frequency welding electrode for medical perfusion, wherein the chambers are formed by clamping rails and, by pulling out a strand, a fluid connection can be produced between the chambers.

FR 2 645 437 A1 sets out a device for dividing a flexible bag in order to provide medication or foodstuffs in different chambers.

WO 2007/016615 A1 discloses a sterilised multi-chamber bag for parenteral nutrition.

An object of the present invention is therefore to configure and develop a container and a set of the type mentioned in the introduction in such a manner that with simple handling administration of parenteral nutrition in accordance with the individual metabolic state of a patient is enabled.

According to the invention, the above object is achieved with a bag having the features of claim 1. Accordingly, the bag in question is configured and developed in such a manner that the inner space is subdivided into separate chambers, wherein the chambers serve to receive fluids for parenteral nutrition, wherein in the inner space there are formed at least two chambers, between which a fluid connection can be produced, wherein the chambers are formed by clamping rails which extend transversely relative to the longitudinal direction and over the entire width of the bag and which are delimited with respect to each other. In the clamping rails there are arranged strands which clamp in the clamping rail and which can be pulled completely or partially out of the clamping

rail, whereby the fluid connection between the chambers can be produced, and wherein the inner space of the bag is subdivided into a minimum of six and preferably a maximum of ten chambers. At least two chambers in accordance with the individual metabolic state of a patient contain different nutritional components, which after production of the fluid connection between the chambers and before administration to the patient can be mixed to form a parenteral nutrition, wherein at least a first chamber contains a parenteral nutrition solution with a first energy content and at least a second chamber contains a fluid to cover the fluid requirement with a second energy content which is smaller than the first energy content of the parenteral nutrition solution, wherein the parenteral nutrition solution comprises carbohydrates, amino acids, fats, vitamins, trace elements and electrolytes.

According to the invention, it has first been recognised that the handling within the context of parenteral nutrition is considerably simplified if at the same time several nutrition components, for example, a parenteral nutrition solution and a fluid for covering the fluid requirement, can be provided. Consequently, a basic requirement for nutrition can be covered in a simple manner.

The bag of the type mentioned in the introduction is configured and developed in such a manner that with simple handling administration of parenteral nutrition in accordance with the individual metabolic state of a patient is ensured.

Preferably, the fluid connection between the chambers can be controlled, wherein such a controllability is intended to be

understood as an embodiment of a bag according to the invention.

In this regard, it has been recognised that it is particularly advantageous if not only a consistently identical mixture of the fluid components, but also, by controlling the fluid connection between the chambers, an individual mixture according to the actual requirement of a patient can be provided. A control of the fluid connection may in this instance be carried out by opening and closing the fluid connection, for example, a channel which is formed between the chambers, or also by partial opening or partial closure. That is to say, the degree of opening of the fluid connection or the channels which bring about the fluid connection can be controlled. As a result of the capacity for reclosing one chamber which is possible as a result of the control, a chamber can also be filled again. An intermittent addition of a nutrition component, for example, by way of an only intermittent fluid connection, is also possible.

The bag may be constructed as a polymer multi-chamber bag. The bag may comprise a flexible plastics material film which is laid twice, that is to say, "folded over" at one side. The open sides can be closed by means of welding. An advantageous sizing with sufficient volume has been found to be a bag size with a length of 600 mm and a width of 250 mm. As a result of the flexibility of the bag which comprises plastics material film, it can also readily be used in a mobile manner if the patients value mobility and the emptying of the bag is carried out via a mobile pump.

According to the invention, at least a first chamber contains a parenteral nutrition solution with a first energy content

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and at least a second chamber contains a fluid to cover the fluid requirement with a second energy content which is smaller than the first energy content. Consequently, the bag is already ready for use and an administration of the parenteral nutrition can be carried out. Specifically, the first chamber may have a larger volume than the second chamber. Consequently, a larger volume of the parenteral nutrition solution is provided. Sufficient adaptation of the parenteral nutrition is thereby produced so that it covers requirements with regard to the energy and nutrition content. As a result of the fact that the parenteral nutrition solution already has a degree of fluid content, the volume of the second chamber, containing the fluid for covering the fluid requirement, may be of a correspondingly smaller size. In this instance, it is conceivable for the first chamber to contain from 750 to 1000 ml of parenteral nutrition solution and/or for the second chamber to contain from 250 to 750 ml of fluid to cover the fluid requirement.

For the most varied possible adaptability of the parenteral nutrition to the requirement of a patient, there may be provided in the inner space additional chambers which in order to provide fluids in accordance with requirements are sized differently in terms of volume, in particular in a stepped manner. Consequently, additional fluids can be provided in accordance with the specific or possible requirement of a patient. Depending on the individual requirements of the patient, only individual ones or all of the chambers are then emptied or mixed with each other, by means of the controllable fluid connection between the chambers. In the additional chambers, other energy-carrying, parenteral nutrition components or other vitamin or mineral components may be located. Consequently, the provision of a

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nutrition which covers requirements is further improved. It is quite particularly advantageous in this instance for the parenteral nutrition solution, the fluid for covering the fluid requirement and additional nutrition components to be provided in such a manner that consideration can be given to the individual requirements of the patients with regard to the composition and the quantity of fluids.

For example, it is possible to administer to a patient only the parenteral nutrition solution from one chamber or only the fluid to cover the fluid requirement from the other chamber or these two and where applicable also additional components can be administered and can be mixed directly prior to the administration via the controllable fluid connection. The significant aspect is that all fluids are provided in the bag. A quite particular advantage in the handling involves the bag being able to be positioned by the patients themselves since nothing more has to be additionally drawn up or injected. For this purpose, only simple teaching of the patient is required. As a result of the possible omission of care services, the patient is flexible and the treatment of the patient is more cost-effective.

In specific terms, the inner space of the bag is divided according to the invention into at least six, preferably a maximum of ten, more preferably into nine chambers. It is thereby possible by providing different fluids to provide different nutrition components so that adequate parenteral nutrition is possible. With this number of chambers, an adequate number of "standard configurations" can also be produced, which are based on individual prescriptions and - as a result of the components which are accommodated in separate chambers - can be stored for longer. Studies have

shown that consequently approximately from 70 to 80% of the individual prescriptions can be formed by approximately from 15 to 20 standard configurations.

The fluid for covering the fluid requirement may have water and/or isotonic saline solution. The parenteral nutrition solution comprises carbohydrates, amino acids, fats, vitamins, trace elements and electrolytes and may further comprise minerals. The others from the at least six chambers may have fatty emulsions, carbohydrate solutions, amino acid solutions, mineral solutions, trace element solutions and/or vitamin solutions.

The parenteral nutrition solution has in order to cover the energy requirement of the patient an energy content of at least 0.5 kcal/ml, preferably at least 0.8 kcal/ml, in a particularly preferred manner at least 1 kcal/ml. Amino acids and the derivatives thereof can be used as protein sources. Poly- and oligo saccharides can be used as carbohydrates. It is possible to consider as fat sources, for example, soya and fish oil, MCT (Medium Chain Triglycerides), olive oil, omega 3 fatty acids and structured triglycerides.

In order to produce the fluid connection, controllable channels, in particular channels which can be at least partially opened and at least partially closed again, can be provided between the chambers. Consequently, using simple structural means, a selective mixing of individual parenteral components and consequently a preparation of the parenteral nutrition can be carried out. In addition, a stable storage of the nutrition components is possible since a merging of the fluids takes place only directly prior to the administration of the parenteral nutrition. In an embodiment

with reclosable channels, a new addition of a component can be carried out so that an addition of a component which is in accordance with requirements, for example, also intermittent, is possible.

In specific terms, by means of the channels, a fluid connection of additional chambers to the first chamber and/or the second chamber may be able to be produced. The first and the second chambers may in this instance act as removal chambers. Furthermore, a selective "premixing" of individual components is also possible so that, for example, prior to merging the fluids in the first chamber and the second chamber, a mixing which precedes the merging can be carried out at that location in each case. Consequently, the first chamber and the second chamber may also be referred to as "prechambers". In this context, it is advantageous for one or more of the additional chambers to be able to be connected to the first chamber and the remaining ones of the others of the at least six chambers to be able to be connected to the second chamber by means of the channels thereof.

In order to achieve a structurally favourable construction, the controllable channels can each be formed by a passage in the wall of one of the chambers and by a clamping means for opening and closing the passage, in particular a clamp. In addition to a favourable construction, a simple handling is thereby also produced, by the clamping means being completely or partially able to be removed from the portion of the container forming the passage, whereby the channel is completely or partially opened. The opening state of the channel can in this instance be directly identified, that is to say, by the presence, the omission or the position of the clamping means, in particular the clamp. In an embodiment of

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the clamping means as a clamp, a passage can be closed again in a simple manner by the clamp being "attached". In this instance, it is conceivable to use for each passage a clamping means or a clamp. If a plurality of nutrition components can only be used together, it is also conceivable for only one clamp to be associated with a plurality of passages.

In order to enable safe handling, an opening which protrudes through the inner space and which is separated therefrom is provided for receiving and/or for introducing the clamping means, in particular a clamp. The clamping means or the clamp can be introduced through the opening and consequently secured to the passage. A corresponding removal can also be produced in this manner. As a result of this embodiment, secure association of the clamping means on the container is produced since they do not protrude outwards and the risk of inadvertent removal of the clamping means or clamps is consequently quite considerably reduced.

For a rapid and flexible capacity for use, a transfer system which can be coupled to one of the chambers in order to administer to a patient the parenteral nutrition solution and/or the fluid to cover the fluid requirement may be provided. There can be used as a transfer system infusion systems which have a hose line and corresponding connections. At one end, it may have a connection piece for the container and at the other end a connection piece for an intravenous administration.

Specifically, a connection piece for filling or emptying the chamber content, in particular a Luer lock valve port, may be associated with at least the additional chambers.

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Consequently, an individual filling or emptying of individual chambers can be carried out. In addition to selective administration of the chamber content from a chamber, refilling is also consequently enabled.

In order to achieve the most flexible capacity for use possible, the first chamber and/or the second chamber may have at least one access, in particular a needle injection port having a diaphragm, a Luer lock injection port, a connection for an infusion device having a Luer lock connection and/or a port for an infusion device having a spike-like member. In addition to flexible capacity for use, a high level of compatibility is consequently also provided in the use of the container. Furthermore, in this manner, a redundancy is produced if one of the connections is damaged at the administration location or the complementary - for example, pump-side - counter-piece thereof is not available at all. With regard to the specific arrangement of the accesses and connections set out above, it is conceivable for them to be formed at one side of the container.

With regard to a possible administration by means of gravitational force, at the side facing away from the access suspension locations for securing the container, in particular in the form of channels, are provided. Consequently, administration of parenteral nutrition is also ensured when no complex medical devices, such as, for example, metering pumps, are available. By constructing suspension pumps, the container can be secured at a location which is raised with respect to the patient. In this instance, as already explained above, it is advantageous for the connections or removal locations of the first and/or the second chamber to be arranged at a side of the container

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opposite the suspension locations. In order to ensure a removal of fluids by gravitational force from each of the chambers - in the case of a substantially rectangular basic structure of the container - it is conceivable for passages for forming a receiving location to be provided on each corner.

The object mentioned in the introduction is also achieved with a set having the features of claim 12. For the set according to the invention for providing parenteral nutrition, it is particularly significant for it to comprise a bag according to the invention and a transfer system which can be coupled to a chamber of the bag for administering parenteral nutrition to a patient, wherein the bag and the transfer system are received in a closed packaging.

This set enables direct administration of the parenteral nutrition solution and/or the fluid to cover the fluid requirement, wherein the bag and the transfer system or spiral line are contained in the packaging. In this instance, it is advantageous for the bag and transfer system to be received in the packaging in a sterile manner. To this end, the packaging which is preferably constructed as a bag may comprise a film which enables sterilisation of a multi-chamber bag. It is also advantageous for immediate usability of the set for at least the parenteral nutrition solution and the fluid to cover the fluid requirement to already be contained in the bag so that the bag and consequently the set are on the whole ready for use.

It is possible to use as a transfer system or spiral line infusion systems which have a hose line with corresponding connection pieces. At one end, a connection piece for the bag

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and, at the other end, a connection piece for an intravenous administration may be provided. For the simplest possible removable of the bag and the transfer system from the packaging, it may be constructed as a film bag. The film bag may be formed from a flexible plastics material film, which is folded at one side and which is closed at the other sides by means of a weld seam. By constructing an opening region, it is possible to simply remove the bag and the transfer system without contaminating these components to the greatest possible extent. The region which can be opened may be constructed as a separable seam, in particular as a seam portion of the weld seam which can be separated, or as a perforation which enables simple manual opening of the packaging.

There are various possibilities for configuring and developing the teaching of the present invention in an advantageous manner. The invention is defined by the claims. Together with the explanation of the preferred embodiments of the invention with reference to the drawings, generally preferred embodiments and developments of the teaching are also explained. In the drawings:

Figure 1 is a schematic view of a first embodiment of a container according to the invention for providing parenteral nutrition,

Figure 2 is a schematic view of an embodiment of a set according to the invention for providing parenteral nutrition, comprising a container according to the invention, and

Figure 3 is a schematic view of a second embodiment of a container according to the invention.

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Figure 1 shows an embodiment of a container according to the invention for providing parenteral nutrition. The container is constructed as a bag, that is, as a polymer multi-chamber bag. The multi-chamber bag has nine chambers 1 to 9 which are separated from each other.

The bag is formed by a folded-over flexible plastics film which is closed at the first side S1 and at the second side S2 with a dual weld seam and which at the - in Figure 1 upper - third side S3 is closed outwards with a single weld seam. The fourth side S4 requires no weld seam since the film in this instance is folded over and is consequently closed in a seamless manner.

In order to secure the bag, securing locations 10 are formed at the first side S1 in the form of passages 10. At the second side S2, securing locations 11 in the form of passages 11 are formed. Consequently, a liquid removal can be carried out as a result of the action of gravitational force, wherein the bag is intended to be suspended in such a manner that the removal location faces towards the ground, in simpler terms "in a downward direction".

The chambers 1 to 9 are separated from each other by fixed chamber walls 12 - for reasons of clarity, only provided once with reference numerals. The chambers 3, 4 and 5 each have a controllable channel 13 by means of which a fluid connection to the second chamber 2 can be produced. The chamber 6 has a channel 14 and the chambers 7, 8 and 9 each have a controllable channel 15. Consequently, the chambers 6, 7, 8, 9 can be connected to the first chamber 1 by way of a fluid connection.

The first chamber 1 and the second chamber 2 can be coupled to each other by means of a channel 16 in order to produce a fluid connection. The controllable channels 13, 14, 15, 16 are each formed by means of a passage 17, 18, 19, 20 and by clamping means K1, K2, K3, K4 for opening and closing the passage 17, 18, 19, 20. A partial opening or a partial closure is also possible. The clamping means K1, K2, K3, K4 are constructed as clamps K1, K2, K3, K4. The clamping means or clamps K1, K2, K3, K4 can be completely or partially removed from passages so that a control of the quantity of fluid which can be removed from a chamber can be carried out. Refitting of the clamping means or clamps K1, K2, K3, K4 is also conceivable so that reclosure and where applicable refilling of a chamber is also possible.

In order to receive or introduce the clamps K1, K2, K3, K4, there are provided openings 21 which protrude through the inner space of the bag and which are separated from it - for reasons of clarity provided only once with reference numerals. In this manner, the clamps K1, K2, K3, K4 are arranged inside the bag and do not protrude from the bag towards the side so that the risk of unintentional release of the clamps is minimised. At the same time, as a result of the presence, omission or the position of the clamps K1, K2, K3, K4, it can be directly identified whether the passages 17, 18, 19, 20 are opened or closed or partially opened or closed. The clamping means or clamps K1, K2, K3, K4 may also be opened individually so that in accordance with the respective fluids in the chambers 1 to 9 individual mixtures can be implemented. An individual consideration of the metabolic state of a patient is thereby possible.

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In the chambers 2 to 9, a connection piece 22 for filling or emptying the chamber content is associated. The connection piece 22 is in this embodiment constructed as a Luer lock valve port 22. Consequently, not only a selective removal or administration of one of the fluids is possible, but also a filling or refilling of a required fluid.

The first chamber 1 has a needle injection port having a diaphragm 23, a Luer lock injection port or connection for an infusion device having a Luer lock connection 24 and a port for an infusion device having a spike-like member 25. A flexible connection possibility of the bag 1 in order to provide parenteral nutrition is thereby enabled. A redundant connection possibility is also thereby implemented if at the administration location the complementary counter-piece to one of the connections formed on the bag is defective or is not present at all.

The channels 14 and 16 each have a clamp K2, K4. The channels 13 and 15 of the chambers 3, 4, 5 and 7, 8, 9 each have a clamp K1, K3 for a plurality of channels.

In the present embodiment, the bag has a length of 600 mm and a width of 250 mm. The chambers 1 to 9 are sized differently, that is to say, in a stepped manner. Consequently, different fluids can be stored in the bag in the quantity required in each case. In addition, the first chamber 1 which serves to receive the parenteral nutrition has a larger volume than the second chamber 2 which serves to receive a fluid for covering the fluid requirement. The first chamber 1 has a capacity of 1000 ml, whilst the second chamber 2 can receive a volume of 600 ml. The chambers 5 and 7 have a capacity of 100 ml in each case, whereas the chambers 4, 6 and 8 have a capacity of

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15 ml in each case. The chambers 3 and 9 can each receive a volume of 80 ml.

Figure 2 shows an embodiment of a set according to the invention for providing parenteral nutrition. The set comprises a container 26 according to the invention with parenteral fluids contained therein, that is to say, at least one parenteral nutrition solution and a fluid to cover the fluid requirement. In addition, a transfer system 27 which can be coupled to one of the chambers of the container 26 - in this instance, illustrated only schematically - for administering parenteral nutrition to a patient is contained in the set. There is used as a transfer system an infusion system which has a hose line and corresponding connections. At one end, a connection piece for connection to the container and, at the other end, a connection piece for intravenous administration are formed.

The container 26 and the transfer system 27 are received in a closed and sterile packaging 28. The packaging 28 is formed as a bag of plastics material films which are located one above the other and which are welded to each other by means of a peripheral weld seam - not illustrated here. At least a portion of the weld seam which is not illustrated is constructed as a weld seam which can be torn open or separated and which can also be referred to as a peel seam. It is therefore possible to open the sterile packaging 28 in a simple manner in order to remove the components of the set. As a result of the set providing the bag 26 and the transfer system 27 in a sterile and ready-to-use state in the packaging, a direct and rapid administration of parenteral nutrition can be carried out since the packaging 28 only has

to be opened and afterwards the parenteral nutrition can be administered.

Figure 3 shows another embodiment of a container (26) according to the invention, wherein the container (26) comprises a folded and welded film strip (32). In order to retain or receive the bag (26), there is provided a type of frame (33) which acts as a receiving member or suspension for the container (26). The frame (33) again has a suspension device (34) which may be formed by an arrangement of annular lugs or the like.

For the container (26) shown in Figure 3, it is significant that it is subdivided by a total of three clamping rails (31) into four chambers 1, 2, 3, 4, wherein the clamping rail has an inserted or integrated clamping strand (35). If the clamping strand (35) on the clamping rail (31) is pulled completely or partially out, a flow connection between the chambers 1, 2, 3, 4 is produced and the fluids which are located in the container (26), specifically in the chambers 1, 2, 3, 4 which are located therein, can be mixed together.

In the embodiment shown in Figure 3, a control by way of a flow connection between the chambers 1, 2, 3, 4 is not possible so that an overall mixing between the fluids after removing the clamping strand (35) is carried out. If the contents of a chamber are not intended to be used or are intended to be only partially used for the mixing, the chamber can be completely or partially emptied by means of a valve (30).

After the mixing of the contents of the chamber 1, 2, 3, 4, the mixing can be administered via the outlet valve (36).

With regard to other advantageous embodiments of the container according to the invention and the set according to the invention, in order to avoid repetition reference may be made to the general portion of the description and the appended claims.

Finally, it should be expressly noted that the above-described embodiments of the container according to the invention and the set according to the invention serve only to explain the claimed teaching, but do not limit it to the embodiments.

List of reference numerals

1	First chamber
2	Second chamber
3, 4, 5, 6, 7, 8, 9	Chamber
10,11	Suspension location, passage
12	Wall
13, 14, 15, 16	Channel
17, 18, 19, 20	Passage
21	Opening
22	Connection piece, Luer lock valve port
23	Needle injection port
24	Luer lock injection port
25	Port for infusion device with spike-like member
26	Container, bag, polymer multi-chamber bag
27	Transfer system
28	Packaging
30	Valves
31	Clamping rail
32	Film strip
33	Frame/partial frame
34	Suspension device
35	Clamping strand
36	Outlet valve
K1, K2, K3, K4	Clamping means, clamp
S1, S2, S3, S4	Side

P A T E N T K R A V

1. Pose (26) til tilvejebringelse af parenteral næring i overensstemmelse med til de individuelle behov af patienter med et i adskilte kamre (1, 2, 3, 4) underinddelt indvendigt rum, hvor kamrene (1, 2, 3, 4) tjener til optag af væsker til parenteral næring, hvor der i
 5 det indvendige rum er udformet mindst to kamre (1, 2, 3, 4), mellem hvilke der kan fremstilles en væskeforbindelse, hvor kamrene (1, 2, 3, 4) er dannet og afgrænset i forhold til hinanden ved hjælp af klemmeskiner (31), der udstrækker sig på tværs af længderetningen og over hele bredden af posen (26), hvor der i klemmeskinerne (31) er anbragt lidser (35), som klemmer i klemmeskinnen (31) og kan trækkes helt eller delvist ud af klemmeskinnen (31), hvorved væskeforbindelsen mellem kamrene (1, 2, 3, 4) kan fremstilles, og
 10 hvor det indvendige rum af posen er underinddelt i mindst seks og fortrinsvis maksimalt ti kamre (1, 2, 3, 4), hvor mindst to kamre (1, 2, 3, 4) indeholder i overensstemmelse med det individuelle stofskifte af en patient forskellige næringskomponenter, som efter fremstillingen af væskeforbindelsen mellem kamrene (1, 2, 3, 4) og før indgivelse til patienten kan
 15 blandes til en parenteral ernæring, hvor mindst ét første kammer (1) indeholder en parenteral næringsopløsning med et første energiindhold, og mindst ét andet kammer (2) indeholder en væske til dækning af væskebehovet med et andet energiindhold, som er mindre end det første energiindhold af den parenterale næringsopløsning, hvor den parenterale næringsopløsning omfatter kulhydrater, aminosyrer, fedtstoffer, vitaminer, sporstoffer og
 20 elektrolytter.

2. Pose ifølge krav 1, k e n d e t e g n e t ved, at væskeforbindelsen mellem kamrene (1, 2, 3, 4, 5, 6, 7, 8, 9) er regulerbar.

3. Pose ifølge krav 1 eller 2, k e n d e t e g n e t ved, at kamrene (1, 2, 3, 4, 5, 6, 7, 8, 9) fortrinsvis kan åbnes udadtil ved hjælp af en ventil (30), og i påkommende tilfælde
 25 kan tømmes helt eller delvist, fortrinsvis doseret, udadtil.

4. Pose ifølge krav 1 til 3, k e n d e t e g n e t ved, at det første kammer (1) omfatter et større volumen end det andet kammer (2).

5. Pose ifølge krav 1 til 4, k e n d e t e g n e t ved, at der i det indre rum er tilvejebragt yderligere kamre (7, 8, 9), som til behovsmæssig tilvejebringelse af væsker er forskelligt dimensioneret, fortrinsvis trindelt, i voluminer, og/eller at det indre rum er underinddelt i ni kamre (1, 2, 3, 4, 5, 6, 7, 8, 9).
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6. Pose ifølge ét af kravene 1 til 5, k e n d e t e g n e t ved, at der til fremstilling af væskeforbindelse er tilvejebragt regulerbare kanaler (14, 15, 16, 20), navnlig kanaler (13, 14, 15, 16) der kan åbnes mindst delvist og genlukkes mindst delvist, mellem kamrene (1, 2, 3, 4, 5, 6, 7, 8, 9), og/eller at der ved hjælp af kanalerne (13, 14, 15, 16) kan fremstilles en væskeforbindelse af yderligere kamre (3, 4, 5, 6, 7, 8, 9) med det første kammer (1) og/eller det andet kammer (2).
 35

7. Pose ifølge krav 6, k e n d e t e g n e t ved, at de regulerbare kanaler (13, 14, 15, 16) hver er dannet ved hjælp af en gennemgang (17, 18, 19, 20) i en væg (12) af ét

af kamrene (1, 2, 3, 4, 5, 6, 7, 8, 9) og ved hjælp af et klemmemiddel (K1, K2, K3, K4), navnlig en klemme (K1, K2, K3, K4), til at åbne og lukke gennemgangen (17, 18, 19, 20).

8. Pose ifølge krav 7, k e n d e t e g n e t ved, at der er tilvejebragt en gennem det indre rum ragende og fra dette adskilt åbning (21) til optag og/eller til indførsel af klemmemidlet (K1, K2, K3, K4), navnlig klemmen (K1, K2, K3, K4).

9. Pose ifølge ét af kravene 1 til 8, k e n d e t e g n e t ved, at der er tilvejebragt et overførselssystem (27), som kan kobles til ét af kamrene (1, 2, 3, 4, 5, 6, 7, 8, 9), og som er til indgivelse af den parenterale næring og/eller væske til dækning af væskebehovet til en patient, og/eller at i det mindste de yderligere kamre (3, 4, 5, 6, 7, 8, 9) er tilordnet et tilslutningsstykke (22), navnlig en luer-lock-ventilport (22), til at fylde eller tømme kammerindholdet.

10. Pose ifølge ét af kravene 1 til 9, k e n d e t e g n e t ved, at det første kammer (1) og/eller det andet kammer (2) omfatter mindst én adgang (22, 23), navnlig en nåleindsprøjtningsport (23) med membran, en luer-lock-indsprøjtningsport (24), en tilslutning til et infusionsapparat med luer-lock-forbindelse og/eller en port (25) til et infusionsapparat med pig.

11. Pose ifølge krav 10, k e n d e t e g n e t ved, at der på den væk fra adgangen (22, 23, 24, 25) vendende side er tilvejebragt ophængningspunkter (10, 11), navnlig i form af gennemgange (10, 11), til at fastgøre posen.

12. Sæt til tilvejebringelse af parenteral næring omfattende en pose (26) ifølge ét af kravene 1 til 9 og et overførselssystem (27), som kan kobles til et kammer af posen (26) til indgivelse af parenteral næring til en patient, hvor posen (26) og overførselssystemet (27) er optaget i en lukket emballage (28).

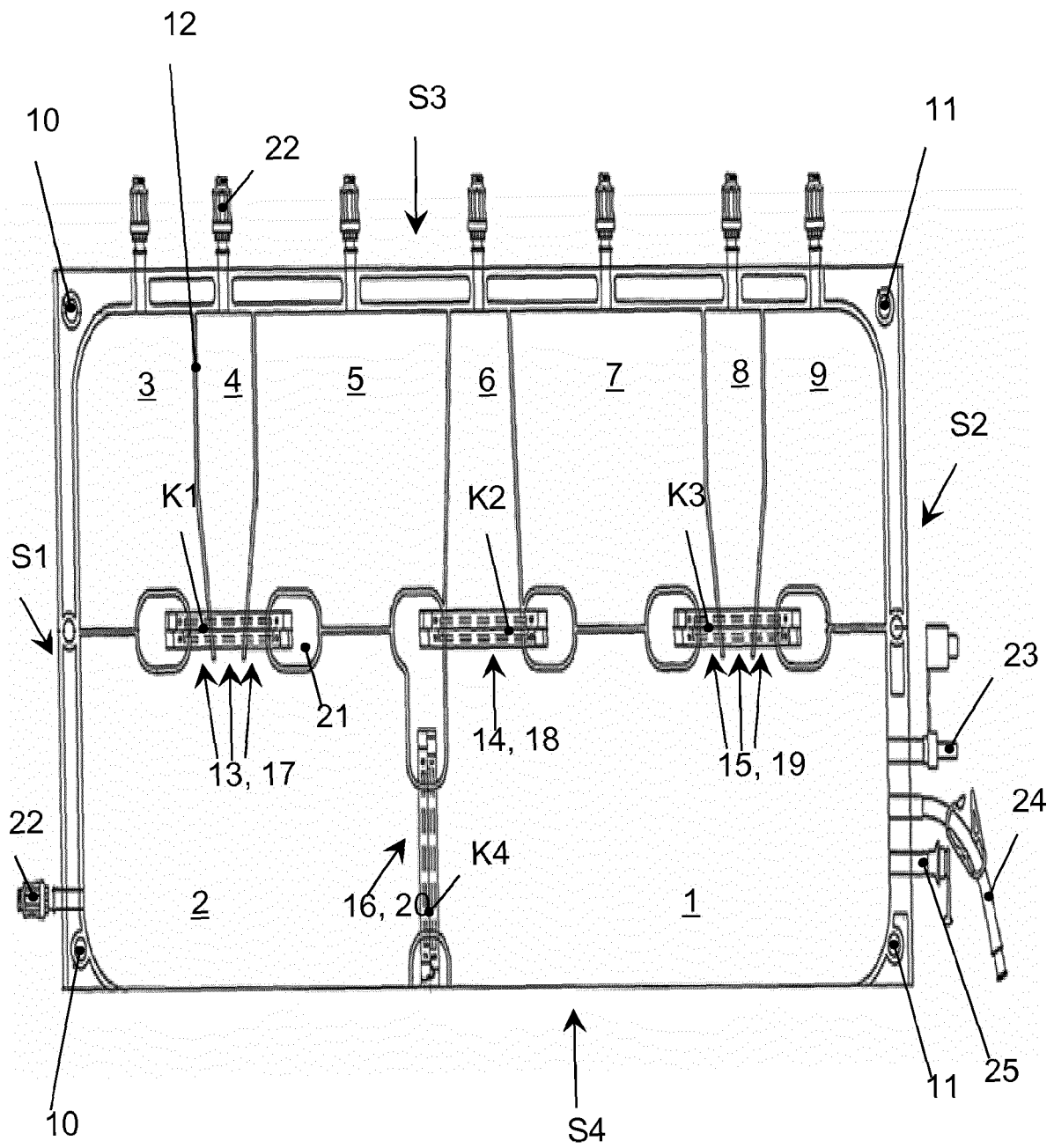


Fig. 1

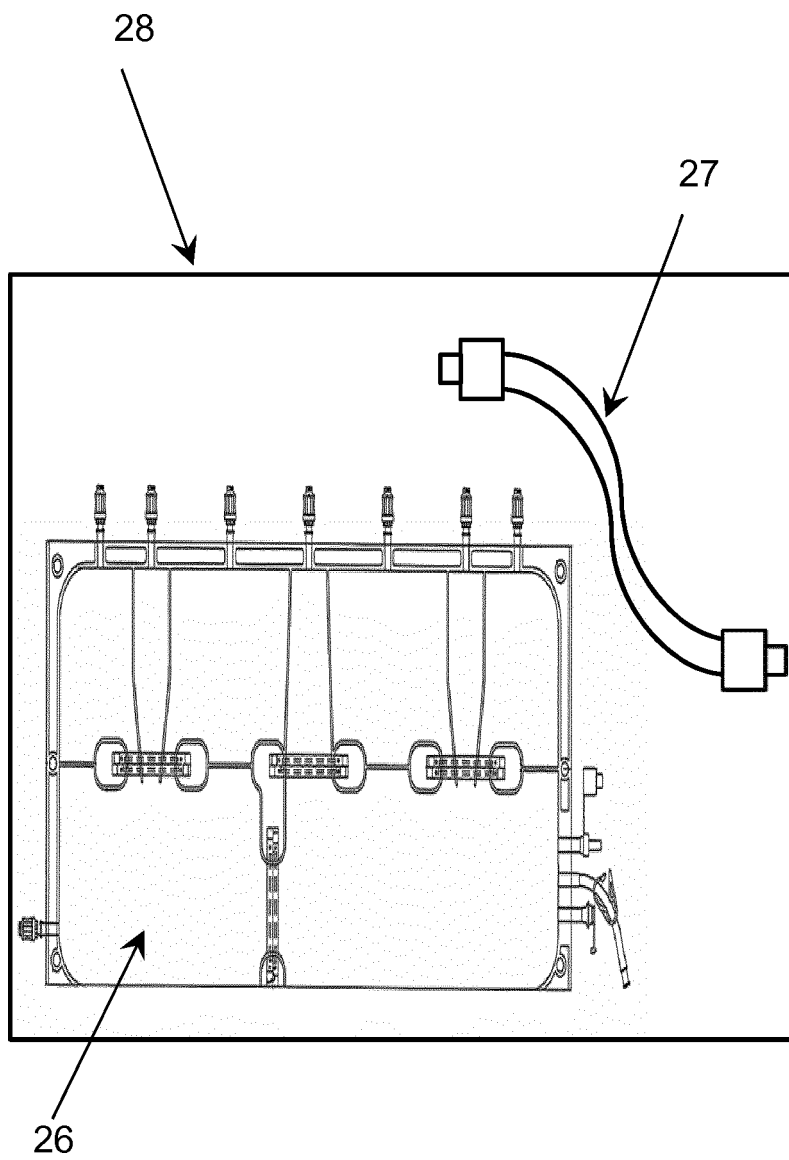


Fig. 2

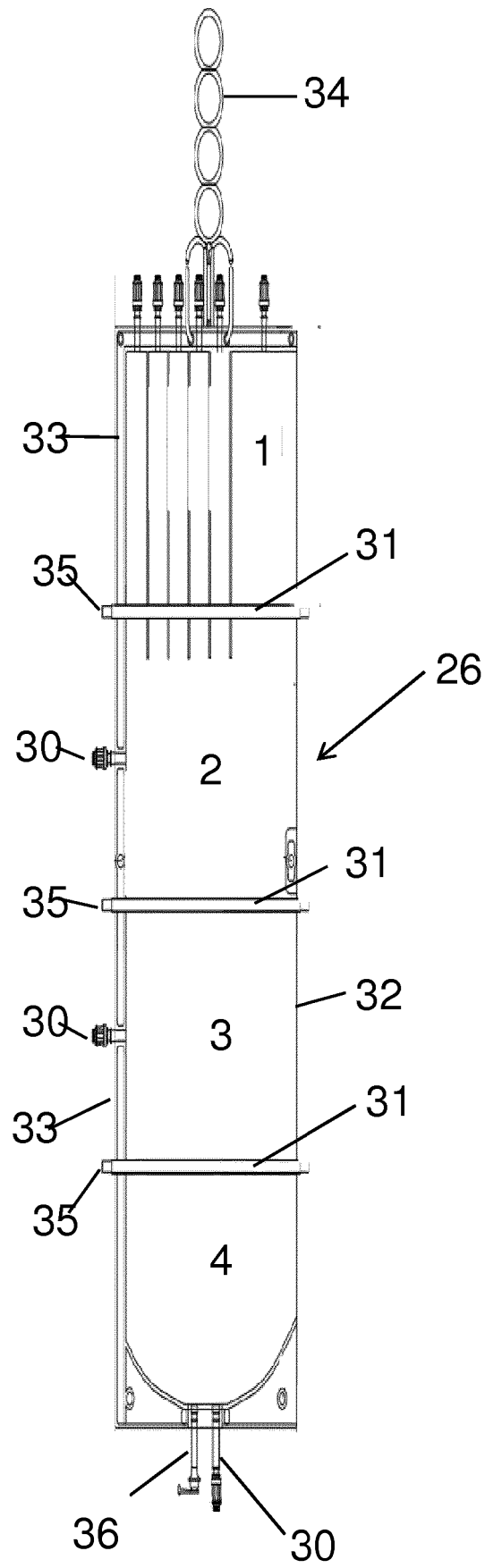


Fig. 3