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The invention relates to a storage device for products in accordance with the preamble of claim 1.

Storage devices of this type are known in different embodiments and are also used, in particular, as buffer storage devices in systems for the processing and/or working of products. Such storage devices basically consist of two transport elements arranged parallel to one another and next to one another, which exhibit mutually opposed conveying or transport directions and form a transport surface on which the products stand upright or lie. At one end of the transport surface, one of the transport elements forms a product inlet, via which the products are transported to the storage device and its transport surface respectively, and the other transport element forms a product outlet, via which, in normal operation, the products are conveyed away from the storage device or from the transport surface. Provided opposite the product inlet and the product outlet, at the transport surface, is a transfer element, which has the effect of defecting or transferring the products from one transport element to the other transport element. By adjusting the position of the transfer element with an adjustment drive, relative to the product inlet or product outlet respectively, i.e. by changing the spacing interval between the transfer element and the product inlet or product outlet respectively, the storage or accommodation capacity of the storage device or of the storage or buffer sections formed on the transport elements between the transfer element and the product inlet or product outlet respectively can be changed and adjusted to the specific requirements in each case. The transport elements are in each case formed by at least one endless circulating driven transport band, but, as a rule, by a plurality of transport bands connecting close to one another at least transverse to the transport direction.

With known storage devices of the type referred to heretofore (EP 1 807 329 A1, EP 1 632 445 A1) the transfer element is a passive element, i.e. an element which forms only a guide or transfer section for the products, which consists essentially of a contact or sliding surface for the products. The transfer section or, respectively, its contact and sliding surface extend over the entire, or essentially the entire, width of the two transport elements, and, on the side facing the product inlet and product outlet, is curved in concave fashion by at least one axle perpendicular to the transport surface or to the transport plane defined by this transport surface. Disadvantageous with these known storage devices is the fact that the adjustment drive for the transfer element is provided above the transport surface or the transport plane, and, as a result, the accessibility, in particular also the visual accessibility, of the transport surface for an opto-electric control system and/or monitoring of the storage device is impaired, and/or that an adjustment of

the transfer element, and therefore a change in the accommodation or storage capacity of the storage device, is not possible independently of a control or regulation of the transport elements, in particular of the control or regulation of the conveying speed of the transport elements.

Also known are storage devices (DE 20 2004 012 848 U1) which consist in each case of two endless circulating driven transport bands, parallel to one another but clearly spaced apart from one another, with opposed transport directions, and of a transfer unit, which takes effect between the transport bands, which can be moved in order to change the storage or accommodation capacity of the storage device in the longitudinal direction of the transport bands, and with which the products are guided from the transport band forming the product inlet to the transport band forming the product outlet. For this purpose, the transfer unit has, for example, a driven transport element, which, for example, circulates about a vertical axis, which takes the products from the one transport band, and moves them to the other transport band. Disadvantageous with these known storage devices is, among other things, the fact that the storage sections formed by the two transport elements between the transfer device and the product inlet or product outlet respectively exhibit, in comparison with the maximum diameter of the products, a relatively narrow width, such that, in order to obtain a predetermined maximum storage capacity, a relatively great structural length of the storage device is required. Also disadvantageous, however, is the fact that, with the design of the storage stretches with a width which is greater than the diameter of the products, the transfer device can only be realized with high structural effort and expenditure, and, in addition, the trouble-free transfer of the products from the transport element forming the product inlet to the product inlet forming the product outlet is not guaranteed.

"Products" in the meaning of the invention are, in particular, packing means, and, in this context, already filled packing means, as well as packing means groups, i.e. containers, which in each case consist of at least two packing means, in particular also of at least two filled packing means in each case.

"Packing means" in the meaning of the invention are, in particular, packages or containers, which are usually used in the foodstuffs sector, and in particular also in the beverages sector, and specifically although among others, containers such as, for example, bottles, cans, and also soft packages, for example such as are manufactured from cardboard and/or plastics and/or metal film, transport containers, such as bottle crates, etc.

The expression "essentially" or "approximately" means, in the meaning of the invention, deviations from the exact values in each case by um +/- 10%, prefera-

bly by +/- 5%, and/or deviations in the form of changes which are of no significance for the function.

The object of the invention is to provide a storage device which, with optimum accessibility to the transport surface and its storage sections or stretches, and with improved operational reliability, can be realized without substantial structural effort and expenditure. To solve this object, a storage device according to claim 1 is arranged.

Further embodiments, advantages, and application possibilities of the invention are also derived from the following description of embodiments and from the figures. The invention is described hereinafter in greater detail on the basis of the figures. These show:

Fig. 1 In a very simplified schematic function representation, a view from above of a storage device according to the invention;

Fig. 2 The storage device from Figure 1 in a schematic front view and in the direction of view of the product or container inlet or, respectively, the product or container outlet, onto the transfer element;

Fig. 3 In a simplified representation, a longitudinal section through the storage device from Figure 1;

Figs. 4 and 5 Representations similar to Figures 1 and 2 in a further embodiment of the invention.

The storage device designated in general in Figures 1 - 3 by 1 serves, for example, as a buffer store for the buffering or intermediate storage of products or product units, in particular of containers 2. The storage device 1 in the embodiment 2 shown has, on a machine frame 3, two conveyors 4 and 5, which in each case consist of a conveyor belt 4.1 and 5.1, which in each case are formed from a closed loop and circulate endlessly, and which, with the upper lengths of their loops, form a common transport surface 8 for the containers 2 in a horizontal or essentially horizontal transport plane TE. The transport elements 4 and 5 are arranged parallel to one another and spaced somewhat apart from one another, and can be driven by drive units, not shown, in such a way that the transport element 4 exhibits a transport direction identified by the arrow and the transport element 5 exhibits a transport direction identified by the arrow B and opposed to the transport direction A, for the containers 2, standing upright on the transport surface 8, i.e. with their container axes perpendicular to the transport plane TE. The transport element 4 forms with its end a product or container inlet 1.1, via which the containers 2 are conducted to the storage device 1. The transport element 5 forms at its end, adjacent to the container inlet 1.1, a product or container outlet 1.2, at which the containers 2 are conducted out of the storage device. In the

embodiment shown, the transport elements 4 and 5 have the same width perpendicular to their transport directions A and B and parallel to the transport plane TE, which corresponds to a multiple of the maximum diameter of the products or containers 2 respectively.

Designated by M is a vertical middle plane, oriented parallel to the transport directions A and B. Designated by 6 and 7 are two lateral container guides, which extend on the two longitudinal sides of the transport surface 8 in the transport direction A and B respectively, and therefore delimit laterally the effective area of the transport surface 8 which can be occupied by the containers 2.

The storage device 1 further exhibits a deflection or transfer element 9 with a transfer section 10, which extends, transverse to the transport direction A and B respectively, over the entire effective width of the transport surface 8. With the embodiment shown, the transfer element 9 is arranged in such a way that its transfer section 10 comprises two part sections 10.1 and 10.2, which in the embodiment shown are formed in straight lines, of which the part section 10.1 extends from the part of the transport surface 8 formed by the transport element 4 and the part section 10.1, over the part of the transport surface 8 formed by the transport element 5. Moreover, the part section 10.1 is arranged in such a way that, with a horizontal axial direction oriented perpendicular to the transport direction A and parallel to the transport plane TE, it encloses an angle α of less than 90°, for example an angle in the range between some 30° to 50°, which opens to the middle plane M of the storage device 1. The part section 10.2 encloses with a horizontal axis oriented perpendicular to the transport direction B and parallel to the transport plane TE an angle ß, which in the embodiment shown is smaller than the angle α, for example 20° to 35°, and which likewise opens towards the middle plane M.

By way of the arrangement described, the containers 2 conducted to the container inlet 1.1 are moved on the part section of the transport surface 8, which is formed by the transport element 4 between the container inlet 1.1 and the transfer section 10, and forms the storage section designated by 8.1, at least in part to the part section 10.1, and then, sliding on this part section, to the part section 10.2. The containers 2 therefore pass to the part section of the transport surface 8 which is formed between the part section 10.2 and the container outlet 1.2, and forms the storage section designated by 8.2. The transfer of the containers 2 from the storage section 8.1 to the storage section 8.2 takes place, however, under the build-up pressure which is produced by the containers 2 lying in contact with one another on the transport elements 4 in the container flow, in part already before reaching the transfer section 10. In principle, the transfer of the

containers from the transport element 4 to the transport element 5 always takes place on the part section of the transport surface 8 which is located on the transfer element 9, seen from the container inlet 1.1 or container outlet 1.2 respectively.

The transfer element 9 can be moved in a controlled manner parallel to the transport directions A and B (double arrow C in Figure 1), and for this purpose is provided at a drive and guide element 11, of the band, belt, or chain type, which forms a closed loop, and for this purpose is guided over at least two deflection wheels 12 and 13. The transfer element 9 is secured by a web 9.1 to the upper length 11.1 of the loop formed by the drive and guide element 11. Further, the loop formed by the drive and guide element 11 is arranged in such a way that the upper length 11.1 likewise lies in the transport plane TE, and there closes the gap 14 between the two transport elements 4 and 5. Further, the middle plane of the loop formed by the drive and guide element 11 is also the middle plane M.

The drive and guide element 11 is a constituent part of a positioner drive for adjusting the position of the transfer element 9 according to the double arrow C. For this purpose, beneath the transport plane TE, the drive and guide element 11 is guided by a drive wheel 16, driven by a positioning motor 15, as well as via two deflection wheels 17 and 18, which latter provide for an adequate deflection of the drive and guide element 11 about the drive wheel 16. Due to the adjustment of the position of the transfer element 9, the storage capacity of the storage device 1, and of the storage sections 8.1 and 8.2 respectively, can be changed, and specifically, for example, as a function of the scale of the container flow at the container inlet 1.1 (number of containers 2 being delivered per time unit) and/or as a function of the degree of occupation of the part of the transport surface 8 formed between the transfer element 9 and the container inlet 1.1 and the container outlet 1.2; that is to say, at an increase in the container flow at the container inlet 1.1 and/or at an increase in the degree of occupation, the transfer element 9 is moved, in the sense of an increase in its spacing interval to the container inlet 1.1 and container outlet 1.2. At a reduction in the container flow or the degree of occupation, a controlled movement of the transfer element 9 takes place in the opposite direction.

In principle, the movement or adjustment of transfer element 9 can be controlled independently of the movement and transport speed of the transport elements 4 and 5. The possibility also pertains of controlling the transport elements 4 and 5 and their transport speed independently of each other.

The control data necessary for the controlling or regulating of the accommodation capacity of the storage device 1, or of the storage sections 8.1 and 8.2 respec-

tively, is provided by at least one opto-electric sensor or identification system, which in Figure 1 is indicated schematically by the block 19, and processed in an electronic control device 20, preferably in a computer-supported control device 20, which then actuates the drive or positioning motor 16.

According to the invention, the sensor system 19 includes at least one electronic camera, with which the degree of occupation of the storage sections 8.1 and 8.2 can be acquired. In general, the sensor system is arranged in such a way that, with this system, all relevant current information and data relating to the operational state, at least of a part region of the storage device 1, is acquired. The corresponding image data is then processed and analyzed in the control device 20 or in an evaluation system located there, with an appropriate program or with an image processing arrangement, and evaluated for the active controlling of the transfer element 9. The term "image processing" in this situation is to be understood to mean that, with the aid of an appropriate program, from the images taken by the at least one electronic camera of this system, information is acquired relating to the container 2 which is located within the image. In this situation, for example, it is first determined which containers 2 are located within the respective image. In particular, in this situation the orientation of the containers 2 in the different regions of the transport surface 8 can be acquired, for example the containers 2 which are standing upright in the required manner, and containers which may have fallen over and are lying on the transport surface 8. With this arrangement of the sensor system 19 and the processing of the image data supplied by the sensor system 19, it is then possible, in the control device 20, not only to adjust the storage or accommodation capacity of the storage device 1 optimally to the respective requirements, but also to identify operational faults, for example due to containers 2 which have fallen over, due to containers 2 which are of the wrong type, etc., and to avoid them, for example by issuing notifications to the operating personnel of a system which comprises the storage device 1, and/or by the corresponding actuation of the transport elements 4 and 5 or other system components, upstream or downstream of the storage device 1 in a system, etc. With the use of an appropriate program, the respective degrees of occupation (e.g. number of containers per surface unit of the storage section 8.1 or 8.2 respectively) can be acquired individually for each storage section 8.1 or 8.2 respectively, formed from the transport element 4 and the transport element 5, and specifically, for example, can be classified in a refined degree, for example in increments of 2% in each case.

Moreover, by way of the control device 20, not only is the control of the position of the transfer element 9 carried out, but also the control of the transport ele-

ments 4 and 5, or the transport speed respectively, and, specifically preferably, the transport speed on the transport band 4 as a function of the degree of occupation of transport units or machines which are arranged upstream of the storage device 1 in a system, and the transport speed of the transport element 5 as a function of the degree of occupation of transport unit or machines which are arranged downstream of the storage device 1 in a system.

The transfer element 9 is preferably removable, such that the containers 2 can be conveyed at least on the transport element 4 as far as the end of the transport element 4 located opposite the container inlet 1.1, for example in order to run the storage device 1 empty.

Figures 4 and 5 show as a further embodiment a storage device 1a, which differs from the storage device 1 essentially in that the transfer element 9 is not provided at the drive and guide element 11 forming a closed loop, but at a strip-type retaining or carrier element 21 retaining or carrier element 21, which, by way of a positioning or linear drive 22, arranged in turn beneath the transport plane TE, can be adjusted or moved together with the transfer element 9 according to the arrow C parallel to the transport directions A and B, and specifically controlled in the manner described heretofore by the electronic control device 20 and the sensor system 19. The carrier element 21 is in this situation is guided on the machine frame 3 in such a way that its upper side lies in the transport plane TE, and the carrier element 21 therefore closes the gap 14 between the two transport elements 4 and 5 at least in the region of the transport surface 8 adjacent to the transfer element 9 and the transfer section 10 respectively. Because the carrier element 21 extends only over a part length of the transport elements 4 and 5, container or product guide means 23 are additionally provided, which delimit laterally the transport elements 4 and 5 and, respectively, the storage sections 8.1 and 8.2 formed by them, in the region of the gap 14 at the point at which this gap 14 is not closed by the carrier element 21. The container guide means 23 can be realized in very different forms, for example in the form of telescopic container guides or guide rails, which on one side are secured to the machine frame and on the other to the carrier element 21, or in the form of guide elements which can be raised and lowered and/or tilted, for example in the form of plates, which then, to guide the containers 2 over the transport plane TE, project upwards where the respective positioning of the transfer element 9 corresponding to the gap 14 is not covered by the carrier element 21. The controlling of the guide elements which can be raised and lowered and/or tilted takes place in synchrony with the movement of the transfer element 9, for example likewise by the linear drive 22 or by the transfer element 9 or the carrier element 21 respectively.

With the corresponding arrangement of the transport elements 4 and 5 and, respectively, the transport bands 4.1 and 5.1 which form these transport elements, it is also possible for the transport elements 4 and 5 to be arranged in such a way they connect with one another laterally without the formation of the gap 14. The transfer element 9 is held at a retaining or carrier element or web 9.1, which is connected beneath the transport plane TE to the positioning drive arranged there, and which spaces apart from one another the two transport elements 4 and 5 where the carrier element or the web 9.1 is located, for example in the form of a rod, wedge, and/or boat. The carrier element or the web 9.1 are in this case then preferably located on the side of the transport section 10 which is facing away from the respective storage section 8.1 or 8.2 respectively.

The invention has been described heretofore on the basis of embodiments. It is understood that numerous further deviations are possible without thereby leaving the basic conception of the invention.

It has been assumed heretofore, for example, that the storage device 1 or 1a respectively exhibits a transfer element 9 with two conveying storage sections 8.1 and 8.2 arranged opposite this transfer element. In principle, the possibility also pertains of providing two or more than two transfer elements 9, to which then, in each case, two storage sections are allocated with opposed delivery directions, and which, inside the storage device, i.e. in the container transport direction, follow one another in cascade fashion through the storage device.

It has additionally also be assumed heretofore, in particular in order to simplify the description, that the transport elements 4 and 5 are in each case formed from a single transport band 4.1 or 5.1 respectively. In practice, however, each transport element 4 and 5 consists of a plurality of transport bands, arranged parallel to one another and connecting to one another at least transverse to the transport direction A or B respectively. It has also been assumed heretofore that the transfer element 9 is a "passive" element, i.e. comprises a transfer section 10 running obliquely opposite to the respective transport direction A and B, which forms a guide or sliding surface for the containers 2, on which the containers 2 slide, in particular due to the conveying effect of the transport element 4 and supported by the build-up pressure of the container flow onto the storage section 8.2. In order to improve further the deflection or transfer of the containers 2 from the transport element 4, or from the storage section 8.1 there, onto the transport element 5 or, respectively, onto the storage section 8.2 there, however, it is also possible for the transfer element 9 to be designed in such a way that its transfer section 10 is formed at least on a part length of a circulating transport element, for example of an endless circulating transport band, such as is indicated in Figure

4 with the two transport bands 24 and 25 and by broken lines, wherein these transport elements can also be grouped together to form one single transport element, and/or, preferably in particular with regard to their speed, can be controlled independently of the setting or position of the transfer element 9 and/or the conveying speed of the transport elements 4 and 5. Instead of the two transport bands 24 and 25, which in each case, with the length of their loops which face the container inlet 1.1 or the container outlet 1.2 respectively, form a mounting for the containers 2, it is possible for at least one driven transport and transfer element to be provided, circulating in another manner, which, on its side facing towards the storage sections 8.1 and 8.2, forms a mounting and/or a section for carrying the containers 2 by sympathetic movement.

The possibility also pertains of the container guides 6, 7 and/or 23 to be formed from elements which move in the respective transport direction A or B respectively, for example by the formation of these container guides as endless circulating driven belt or chain elements, of which loop lengths circulating in the respective transport direction A or B respectively form the corresponding container mounts or guides. The drives for such container guides are then preferably likewise arranged beneath the transport plane TE, such that the storage device and its transport surface can be accessed and/or inspected on its upper side unhindered, in particular by opto-electrical sensor systems or appropriate cameras for the control and/or monitoring of the storage device.

The possibility further pertains that, in the transport direction A of the transport element 4, upstream of the transfer element 9, at least one element is provided which guides the flow of products or containers 2, which can be driven and/or moved in a direction parallel to the transfer element 9 or its transfer section 10, wherein the element guiding the flow of containers 2 is then preferably adjustable independently, and specifically, for example, for a change of the spacing interval between the element guiding the flow of containers 2 and the transfer element 9 or its transfer section 10.

Patentkrav

1. Lagerindretning til produkter (2), omfattende mindst to parallelle transportelementer (4, 5) med modsatte transportretninger (A, B) og med mindst et overførselselement (9), som har mindst en overførselsafsnit (10), der strækker sig over transportelementerne (4, 5) for overførsel af produkterne (2) fra en første lagerstrækning (8.1), som er dannet på et første af transportelementerne (4, 5), som transporterer i retning mod overføringsafsnittet (10) til en anden lagerstrækning (8.2) dannet på et andet af transportelementerne (4, 5), som fører væk fra overførselsafsnittet (10), og med et indstillingsdrev (15, 22) til at justere (C) overførselselementet (9) ved bevægelse langs transportstrækningerne (4, 5) for ændring af lagerstrækningernes (8.1, 8.2) optagelseskapacitet, hvori lagerstrækningerne (8.1, 8.2) danner et transportplan (TE), og hvori indstillingsdrevet (15, 22) er arrangeret under lagerstrækningernes (8.1, 8.2) transportplan (TE), **kendetegnet ved, at** der til styring eller regulering af lagerindretningens (1) optagelseskapacitet er tilvejebragt et følersystem (19) med mindst et elektronisk kamera, som er udformet til at registrere belægningsgraden af lagerstrækningerne (8.1, 8.2) og er forbundet med en elektronisk styreindretning (20), hvori de af det elektroniske kamera tilvejebragte billeddata analyseres af styreindretningen (20) og evalueres for aktiv styring af overførselselementet (9) og transportelementerne (4, 5), hvori transportelementerne (4, 5) eller deres transporthastighed kan styres uafhængigt af justeringen (C) af overførselselementet (9).

2. Lagerindretning ifølge krav 1, **kendetegnet ved, at** transportelementerne (4, 5) eller deres transporthastigheder kan styres uafhængigt af hinanden.

3. Indretning ifølge krav 1 eller 2, **kendetegnet ved, at** transportelementerne (4,5) er dannet af mindst et transportbånd (4.1, 5.1), som danner en lukket sløjfe og drives på cirkulerende måde.

4. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** det mindst ene overførselselement (9) er tilvejebragt ved et driv- og føringselement (11, 21), som for justering af overførselselementet (9) på drivende måde er forbundet med et indstillingsdrev (15, 22), og at indstillingsdrevet (15, 22) er et drev, som er uafhængigt af transportelementernes (4, 5) drev.

5. Lagerindretning ifølge krav 4, **kendetegnet ved, at** driv- og føringselementet er et båndkædeagtigt eller remagtigt element eller et baneformet holdeelement (21), der danner en lukket sløjfe.

6. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** overførselselementet (9) holdes ved mindst en bane (9.1) eller ved mindst en flad bane- eller holdeplade, som på drivende måde er forbundet med indstillingsdrevet (15; 22), og at den mindst ene bane (9.1) eller den mindst ene krop- eller holdeplade strækker sig for eksempel mellem transportelementerne (4, 5) fra transportplanets (TE) underside over transportplanets (TE) overside, og føres fortrinsvis under transportplanet (TE).

7. Lagerindretning ifølge krav 6, **kendetegnet ved, at** den mindst ene bane (9.1) eller den mindst ene baneplade eller holdeplade har rilleform, kileform eller bådform, hvori for eksempel de to transportelementer (4, 5) med bevægelsen af den mindst ene bane (9.1) eller den mindst ene baneplade eller holdeplade bevæges væk fra hinanden i det mindste i et område optaget af den mindst ene bane (9.1) eller baneplade eller holdeplade.

8. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** der i det første transportelements (4) transportretning (A) og opstrøms for overførselselementet (9) og/eller ved overførselselementet (9) findes mindst et element (24, 25), der leder strømmen af produkter (2), som kan drives og/eller bevæges i en retning parallelt med overførselselementet (9) eller dets overføringsafsnit (10), at elementet (24, 25), som leder produktstrømmen (2), fortrinsvist er uafhængigt justerbart, og specifikt f.eks. også for en ændring af afstanden mellem elementet (24, 25), der leder produktstrømmen (2), og overførselselementet (9).

9. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** overførselselementet (9) eller mindst en del af overføringsafsnittet (10) er dannet af et element, som drives på cirkulerende måde, f.eks. af et endeløst cirkulerende drevet transportbånd (24, 25), og/eller af et drevet element, som cirkulerer om en akse vinkelret eller i det væsentlige vinkelret på transportplanet (TE).

10. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** overføringsafsnittet (10) i delafsnit (10.1, 10.2), som strækker sig over det første og andet transportelement (4, 5), skråner i forhold til en aksialretning vinkelret på transportretningen (A, B) og parallelt med transportplanet (TE), og at hældningen

(α) af delafsnittet (10.1), som strækker sig over det første transportelement (4), er større end hældningen (ß) af delafsnittet (10.2), som strækker sig over det andet transportelement (5).

11. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** produktføringsorganer (23) er tilvejebragt mellem transportelementerne (4, 5) og parallelt dermed, og hvis position og/eller længde kan ændres som funktion af positionen og/eller bevægelsen af overførselselementet (9), hvori produktføringsorganerne (23) kan hæves, f.eks. ved hjælp af mindst et teleskopisk føringselement og/eller ved en flerhed af føringselementer eller –plader, som kan hæves over transportplanet (TE) og sænkes og/eller vippes under transportplanet, og/eller er dannet af mindst en sløjfe af et endeløst cirkulerende drivbart element i form af et bånd- eller kæde- eller remagtigt element, og/eller kan op- og afvikles ved overførselselementet (9).

12. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved** sideværts produktføringsorganer (6, 7), hvori disse føringsorganer fortrinsvis er udformet af mindst et element, der danner en lukket sløjfe og er i stand til at drives på endeløst cirkulerende måde i form af et bånd- eller kæde- eller remagtigt element.

13. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** det mindst ene overførselselement (9) kan fjernes.

14. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** drev- og føringselementet (11, 15; 22) er tilvejebragt for positionsindstilling af overførselselementet (9) under transportplanet (TE) og/eller sideværts for transportelementerne (4, 5).

15. Lagerindretning ifølge ethvert foregående krav, **kendetegnet ved, at** overførselselementets (9) indstillingsdrev (15, 22) er en frekvensreguleret motor, en servomotor eller et direkte drev.

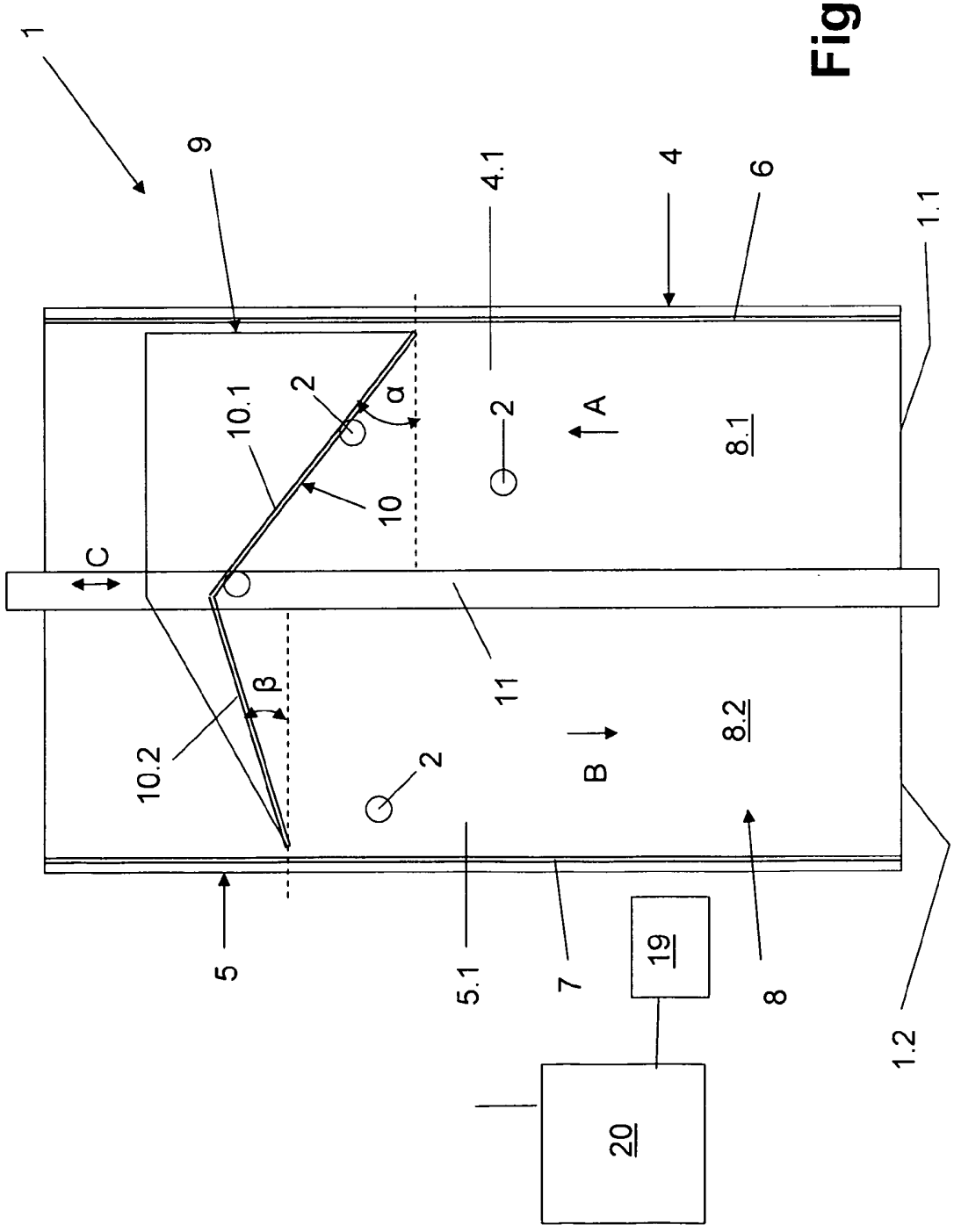

Fig. 1

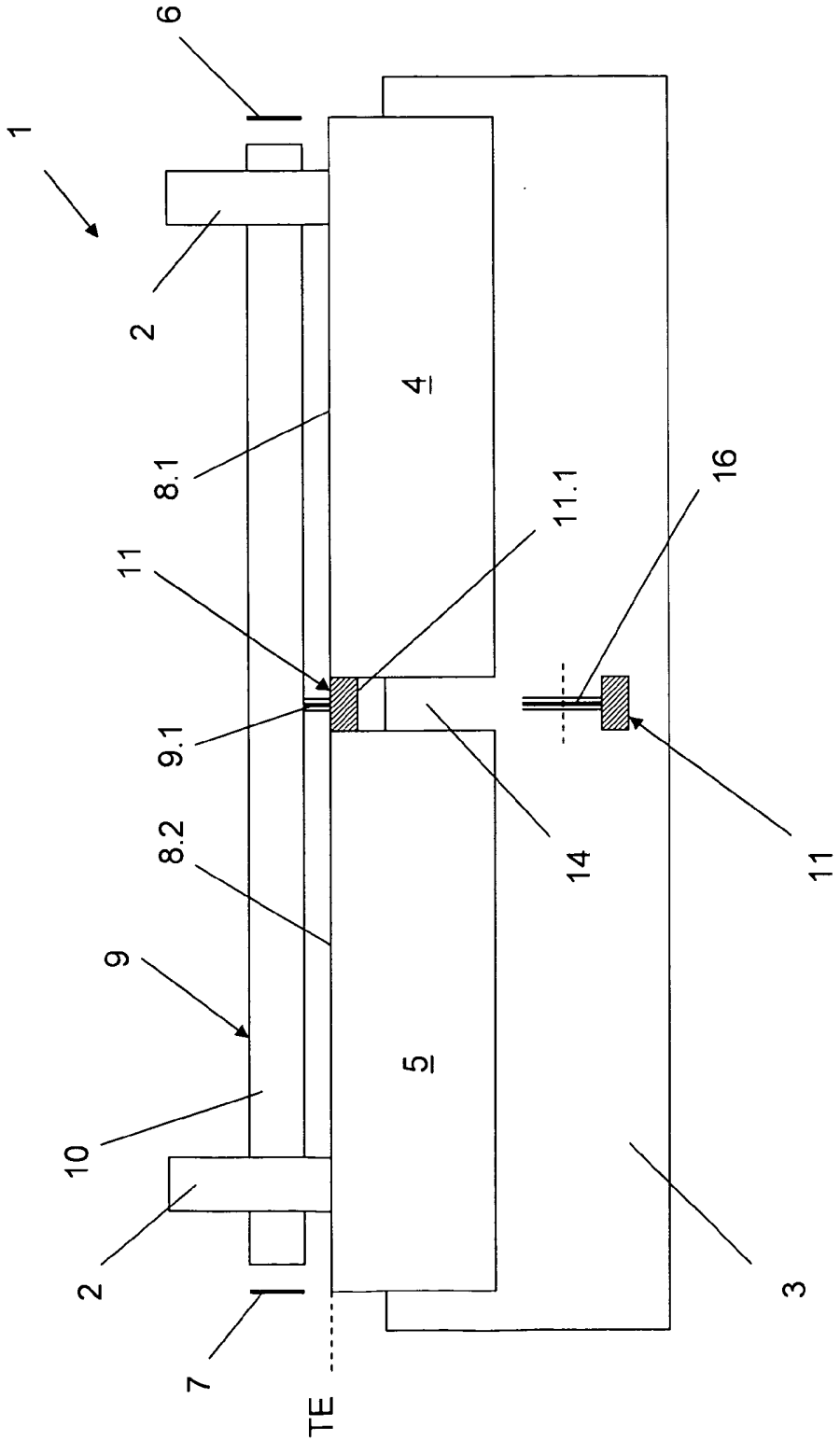

Fig.2

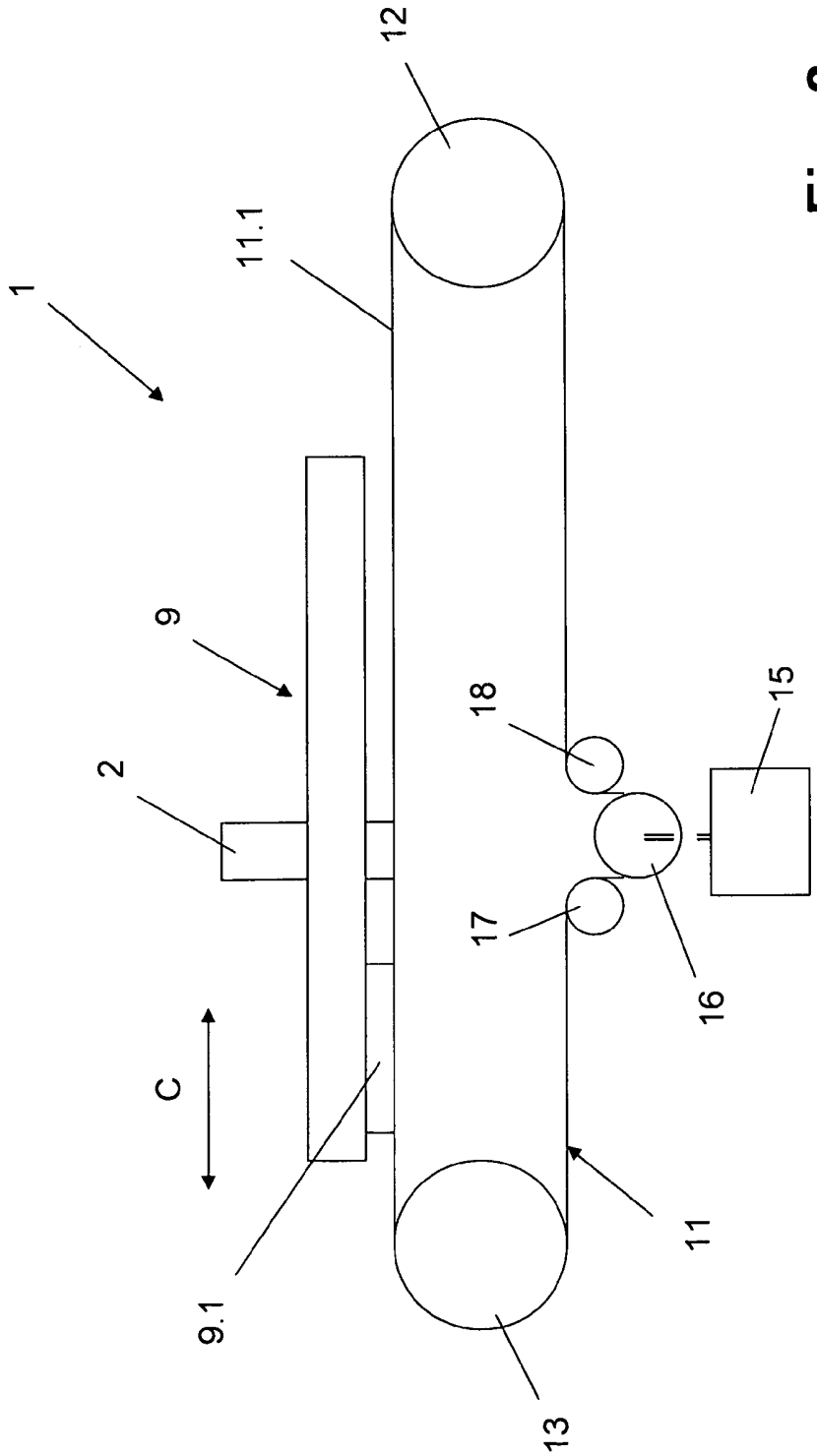

Fig. 3

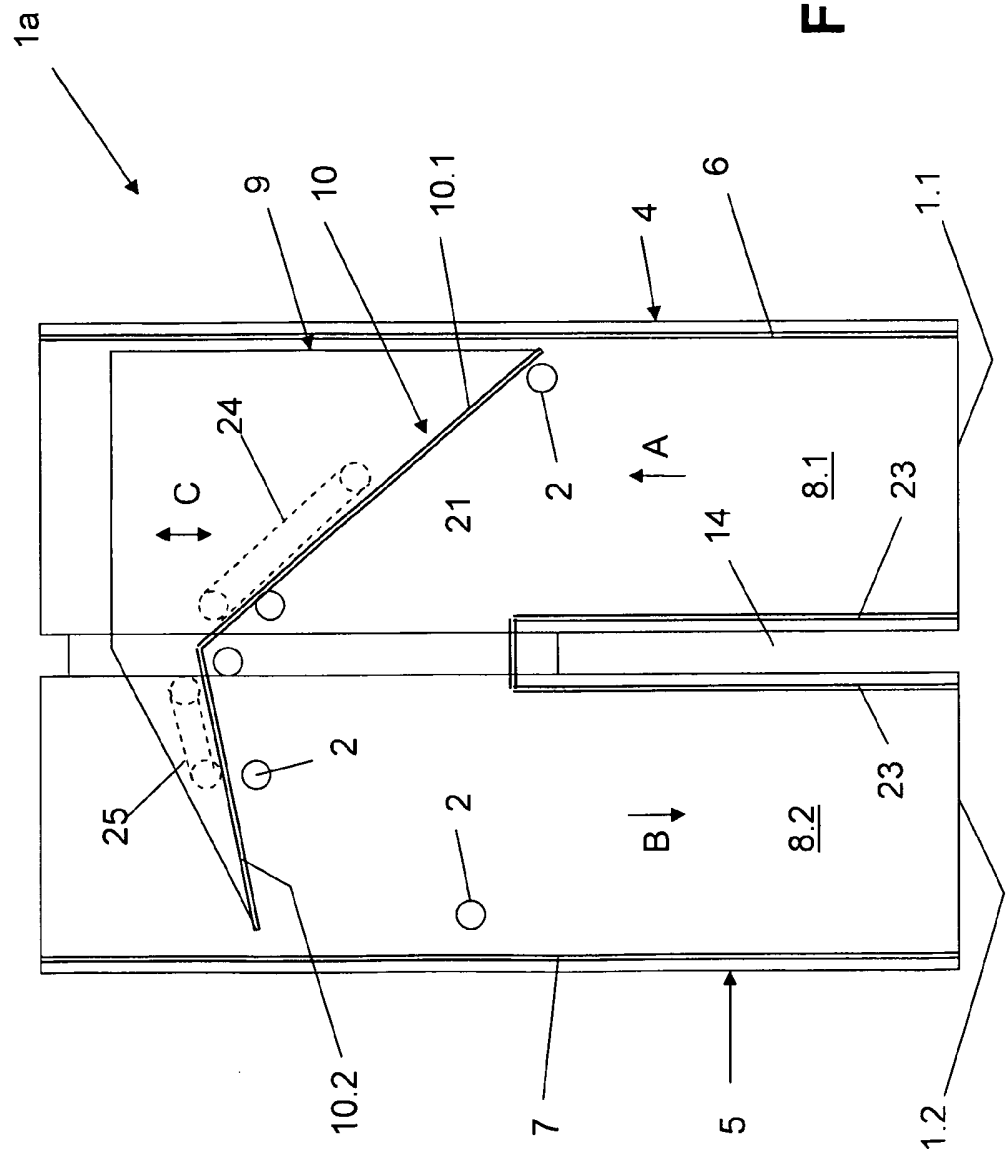

Fig. 4

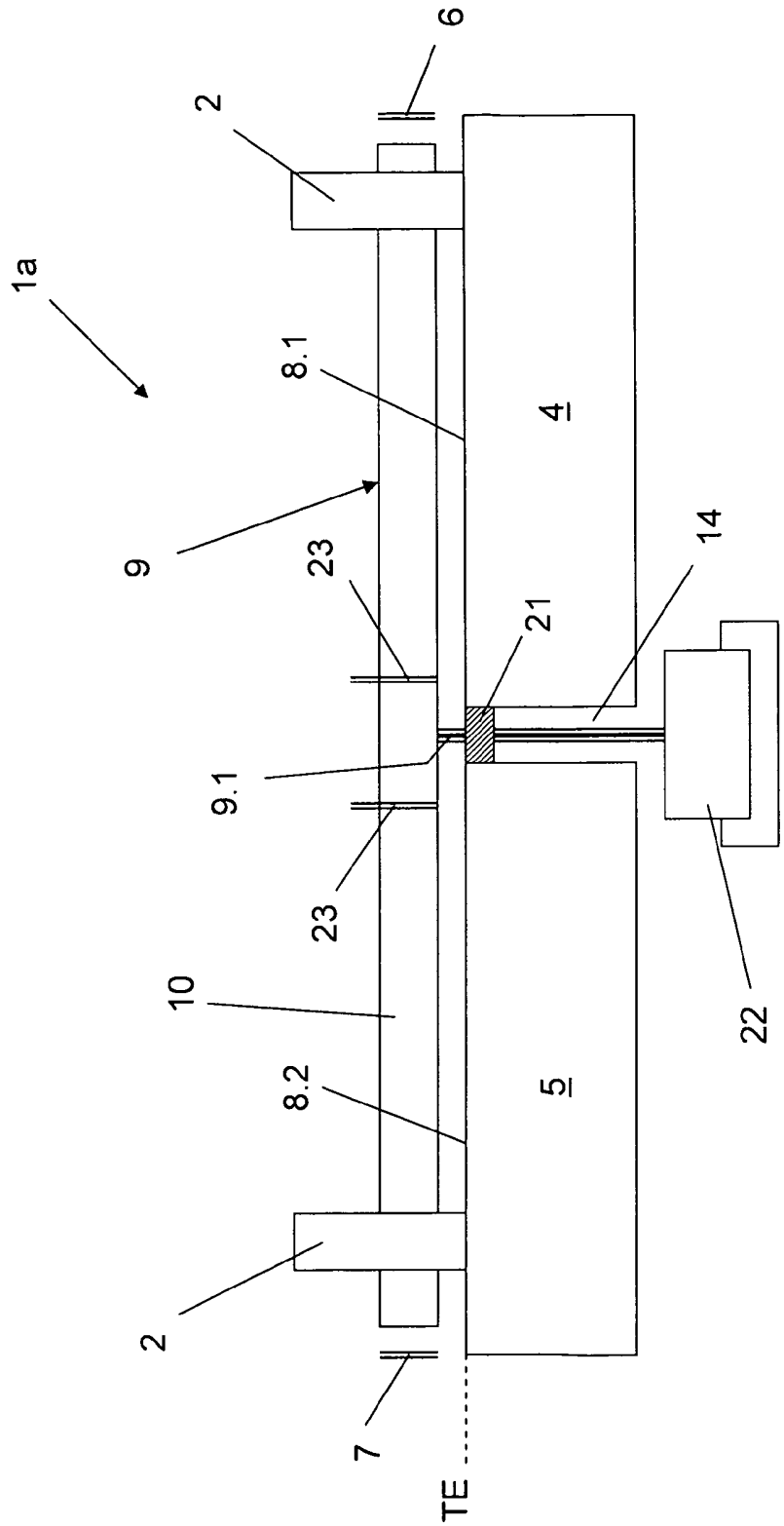

Fig. 5