

Device for transporting a flat piece of material

The invention concerns a device for the transportation of flat piece of material separated from a continuous length of material, e.g. a piece cut off a continuous length of textile, paper, cardboard, plastic, sheet metal or foil, whereby the piece of material must be transferred in mainly horizontal orientation from a first conveyor to a second conveyor, consisting of the first discontinuously operating conveying device (first conveyor), by means of which a continuous length of material can be pulled or taken from a storage point and the free end of the continuous length of material to be cut into single pieces may or may not be held under tension, and of the second continuously operating conveying device (second conveyor), whose transport plane runs parallel to that of the first conveyor. The device has means for holding the separated pieces of material, whereby the transport direction of the first conveyor runs parallel to the longitudinal direction of the continuous length of material and the transport direction of the second conveyor runs at right angles to the longitudinal direction of the length of material, the first conveyor preferably consists of a clamping device for the length of material and a transport gripper, whereby the gripper can be adjusted towards and away from the clamping device, preferably between clamping device and gripper a separating device is arranged by means of which the continuous length can be cut into single pieces of material, the individual piece, after or at the same time as being cut off and released by the first conveyor, in particular by the clamping device and the transport gripper, can be moved by a transfer device from the plane of the first conveyor into the plane of the second conveyor and fed to this conveyor. Hereby the transfer device consists of a clamping device by means of which, parallel to areas aligned in the transport direction of the second conveyor, preferably the sides of the single piece of material are clamped at a distance from their edges in the plane of the first conveyor and moved into the plane of the second conveyor and the clamping device can be adjusted towards and away from the second conveyor in the plane of this conveyor.

In the state of the art a device for transporting pieces of material, especially pieces of textile cut off a continuous length of textile, is known. It consists of a first discontinuously operating conveying device by means of which a continuous length of textile is taken or pulled from a

storage point and the free end of the continuous length of material to be cut into single pieces may or may not be held under tension, and of a second continuously operating conveying device whose transport plane runs parallel to that of the first conveyor, but in the case of horizontal orientation of the transport planes, underneath the first transport plane, and which device has means for holding the separated pieces of textile, whereby the transport direction of the first conveyor runs parallel to the longitudinal direction of the continuous length of material and the transport direction of the second conveyor runs at right angles to this longitudinal direction. The first conveyor preferably consists of a clamping device for the continuous length of textile and a transport gripper, whereby the gripper can be adjusted in a horizontal plane towards and away from the clamping device. Between clamping device and transport gripper a separating device is arranged by means of which the continuous length of textile can be cut into single pieces. The individual piece of textile, after or at the same time as being cut off and released by the first conveyor, in particular by the clamping device and the transport gripper, can be moved by a transfer device from the plane of the first conveyor into the plane of the second conveyor and fed to this conveyor.

In the state of the art it is usual to pull a continuous length of textile from a storage point and to cut a piece off it. This single piece of textile is then transferred to a processing station or a forwarding station. As soon as the piece of textile has been moved away from the area where the continuous length of material is taken from the storage point, a further piece can be separated from the continuous length and carried away in turn.

A disadvantage of such designs is that during the period in which the separated piece of textile is transported from the area where the separation takes place, it is not possible to cut another piece or at least transfer it to the second plane. This cannot take place until the previously cut piece has been completely transported from the transit zone in the second plane.

Devices with superposed cross and longitudinal transport planes are also already known. With these the piece of textile is held in place on needle ledges, separated from the continuous length of material and transferred by the needle ledges to needle chains acting as crossover conveyors. Such a device is complicated as regards the construction and alignment of the needle ledges and difficult to handle with the additional disadvantage that the needle ledges may cause damage to e.g. the textile workpiece which in many cases is undesired.

According to an older proposition the two transport devices are arranged virtually superimposed so that it is possible to pull so much of the material, more specifically, of the length of textile, from a storage point as corresponds to the required size of the individual piece of material.

Then the piece can be separated from the continuous length by means of a rotary disc knife or a cutting bar. Before the cutting process the piece is gripped at the sides (seen in the direction of the length of material) by means of a clamping device and held in position. The clamping device holding the single piece of material is then moved to the second transport plane in which the second continuously operating conveyor is arranged. The piece is thereby held at its sides in such a way that the edges project beyond the clamping devices positioned at the two sides. By means of the clamping device the single piece of material is then moved in the plane of the second conveyor towards this conveyor and passed to it.

An advantage of this design is that the holding of the piece of material in the clamping device is unforced so that the piece is held loosely without tension. This avoids drawing phenomena on the piece itself. However, with a design as described there is the problem that the transfer device must be moved so far forward towards the transfer point of the second conveyor until it is past the overlap area occupied by the piece of textile requiring separation above. Only then is it possible to return the elements of the clamping device to the starting position in which one element of the clamping device is arranged above the piece to be separated in the upper plane and another element of the clamping device below the piece to be separated in the first plane where it then

grabs the textile piece when it is separated or during the separation. This impairs the operating sequence which overall leads to an unsatisfactory output of separate pieces.

Based on this older proposition the purpose of the invention is to create a device of a similar type with which a higher throughput can be achieved i.e. in equal time a larger number of individual textile pieces can be cut and passed to the second conveyor.

In order to achieve this purpose the invention proposes that each clamping device consists of one pair of clamping jaws or two laterally interspaced pairs of clamping jaws, that the clamping jaw pairs can be moved independently of each other i.e. vertically to the planes of the length of material or the pieces of material and also parallel to the conveying direction of the pieces of material and parallel to the transport direction of the second conveyor i.e. in transport direction and against transport direction, whereby the first clamping jaws above the pieces of material can be moved asynchronously or also synchronously in relation to each other and the second clamping jaws underneath the material pieces can be moved asynchronously or also synchronously in relation to each other so that in a first position of the clamping jaw pairs the first and second clamping jaws clamp and hold the separated piece of material in the plane of the first conveyor and transfer it to the plane of the second conveyor, whereby subsequent to or during the transfer movement both pairs of clamping jaws in closed position are movable or have been moved from the first into the second plane to the second conveyor in a second position in which the takeover by the second conveyor has at least begun or already taken place and the piece of material is still within the transfer path from the plane of the first conveyor into the plane of the second conveyor, the clamping jaws have moved from a closed position to an open position, the first clamping jaws advance towards the second conveyor and after completion of the transfer path can be moved back to a position on the other side of (above) the plane of the first conveyor and returned to a third position from which they can move to the first position, whereby furthermore in the second position the second clamping jaws can be moved away from the second conveyor against its transport direction and after completion of the overlap formed by the

piece of material transferred to the second conveyor are returned to the third position before (underneath) the plane of the first conveyor from which they can be moved into the first position.

Subject of the invention is moreover a device for the transport of a single flat piece of material with a first conveying device and a second conveying device, whereby the piece of material is transferred by the first device to the second device whose transport plane runs at right angles parallel to the transport plane of the first conveying device which has means for holding the single piece of material, whereby the transport direction of the first conveying device and the transport direction of the second device are oriented crosswise to each other, whereby the piece of material is held in the transport plane of the first conveyor by means of holding devices and can be held by a transfer device in the first plane and moved from the plane of the first conveyor into the plane of the second conveyor and can be fed to this conveyor, whereby the transfer device consists of a clamping device by means of which areas of the piece of material aligned parallel to the transport direction of the second conveyor are clamped in the plane of the first conveyor and the piece is moved into the plane of the second conveyor by means of the clamping device and the clamping device is preferably adjustable in the plane of the second conveyor towards and away from this conveyor, with the following characteristics:

Each clamping device consists of a pair of clamping jaws or of two laterally interspaced pairs of clamping jaws. The clamping jaws of the pairs of clamping jaws are movable independently of each other and specifically perpendicularly to the planes of the conveying devices and possibly parallel to them and/or to the transport direction of the pieces of material and parallel to the transport direction of the second conveying device i.e. in and against the transport direction, whereby the clamping jaws can be moved by a control device in such a way that in a first position of the clamping jaw pairs the first and the second clamping jaws clamp and hold the separated piece of material in the plane of the first conveyor and transfer it into the plane of the second conveyor, whereby subsequent to or during the transfer movement both clamping jaw pairs or at least the first clamping jaws in closed position are movable or have moved from the first into the

second plane to the feed side of the second conveyor in a second position in which the takeover by the second conveyor has at least begun or has been completed and the piece of material is still within the transfer path from the plane of the first conveyor into the plane of the second conveyor, the clamping jaws have been adjusted from the closed position to an open position, the first clamping jaws advance towards the second conveyor or can be adjusted against this direction and after completion of the transfer path of the piece of material can be moved into a position on the other side of the plane to the side of the plane opposite the second conveyor and are returned to a third position from which they can be moved into the first position, whereby moreover in the second position either the second clamping jaws are held stationary and the piece of material is shifted by the action of the first clamping jaws towards the second conveyor, whereby after the piece of material has fully traversed the transfer path from the first plane into the second plane, the clamping jaws are returned to the third position before the plane of the first conveyor on its side facing the plane of the second conveyor, or the second clamping jaws are adjustable away from the second conveyor against its transport direction and after having moved past the overlap formed by the piece of material transferred to the second conveyor are moved back into the third position before the plane of the first conveyor on its side facing the second conveyor from which they can be moved into the first position.

With such a device different ways of handling the piece of material are possible. If e.g. the single flat piece of material is held in horizontal orientation in the first conveyor and must be transferred into the plane of the second conveyor, the piece is first held in the transport plane of the first conveyor by means of clamping bars or transport gripper or the like. In this position the clamping jaw pairs are so positioned that the first clamping jaws are arranged above and the second clamping jaws below the piece in each case near the edges of the piece of material.

Subsequently the clamping jaws are moved into the clamping position so that the piece of material is clamped by the clamping jaws in the plane of the first conveyor.

Then the bar-shaped clamping jaws, driven by a suitable drive, are moved by means of a control device, whereby the clamping jaws with the piece of material are e.g. adjusted vertically downward into the plane of the second conveyor. Superimposed on this vertical movement a movement towards the second conveyor may take place if the two clamping jaws are not only arranged and mounted movable vertically, but also horizontally. If, as the invention proposes, only the first clamping jaws are movable towards the second conveyor, the kinetic sequence can also be arranged in such a way that the first clamping jaws are advanced towards the second conveyor relative to the second clamping jaws which remain stationary, whereby the piece of material is carried along by these first clamping jaws and moved past the second clamping jaws. Hereby a relative motion takes place between the piece of material and the second clamping jaws, whereas there is no or hardly any relative motion between the first clamping jaws and the piece of material. As soon as the piece of material has reached its corresponding intermediate position, which may mean that the takeover by the second conveyor has started or has already been completed, the clamping jaws can be moved from the closed position into an open position for which purpose they are moved virtually perpendicular to the plane occupied by the piece of material. Subsequently various movements of the clamping jaws are possible to return to the initial position. A first possibility is one whereby the second clamping jaws which are underneath the piece of material, do not move toward the second conveyor in the transport direction of the piece of material, but only vertically, i.e. vertical to the piece of material and the area it occupies. The second clamping jaws must then remain in the lower position (in the second plane) until the piece of material positioned above these clamping jaws is entirely clear of the space above the clamping jaws. Only then can the lower second clamping jaws be returned perpendicularly upward into the first plane. The first clamping jaws which are above the piece of material in the second plane can be so far adjusted forward in the transport direction until they are outside the area occupied by the next piece of material within the plane of the first conveyor. The forward movement of the first clamping jaws is preferable, because then it is not necessary to increase the total length of the whole device. Instead, these clamping jaws can be moved above the second conveyor towards this conveyor, or even over this conveyor where the required free

space is available. Alternatively it is also possible that the first clamping jaws can be adjusted in the opposite direction in the plane of the second conveyor so that they can be moved away from the second conveyor and, specifically, by an amount of travel sufficient to arrange the first clamping jaws outside the area above where the next piece of material is positioned in the plane of the first conveyor. Subsequently the first clamping jaws can be adjusted perpendicularly upwards so that they are positioned above the piece of material held in the plane of the first conveyor. The vertical and the related horizontal movement of the clamping jaws can be carried out superposed so that a translatory movement with component motions in horizontal and vertical direction is executed. Subsequently the first clamping jaws can move back to a position above the piece of material which is in the plane of the first conveyor so that the upper and lower clamping jaws are again arranged above each other and can be moved towards each other to hold the piece of material in the plane of the first conveyor. The rest of the kinetic sequence then follows as already explained.

However, it is also possible to also move the second clamping jaws not only perpendicularly to the piece of material, but parallel to the plane it occupies. The kinetic sequence of the first clamping jaws for this is the same as for the arrangement previously described. The movement of the second clamping jaws is as follows. From the plane of the first conveyor the clamping jaws are moved vertically into the plane of the second conveyor, whereby they can be moved simultaneously or isochronously superposed after each other towards the second conveyor resulting in a translatory movement of the piece of material composed of vertical and horizontal motions. After the partial or complete takeover of the piece of material by the second conveyor, the second clamping jaws can also be released from the piece of material which is in the plane of the second conveyor. Subsequently the second clamping jaws can be moved back far enough in relation to the second conveyor until they are outside the overlap of the piece of material in the plane of the second conveyor. Then the second clamping jaws can be moved towards the plane of the first conveyor so that they are positioned underneath the next piece of material there. By

closing the first and second clamping jaws in this position the piece of material in the plane of the first conveyor can be clamped and moved in the sequence described above.

It is thereby preferable that the kinetic sequence of the clamping jaws of each pair of clamping jaws is adjusted in such a way that they simultaneously reach the third position.

In order to be able to adjust the device for pieces of material of different widths it is proposed that the lateral interspace between the clamping jaw pairs can be adjusted.

The fact that the clamping jaws of the clamping jaw pairs can be moved and adjusted independently of each other, that is to say in a direction orthogonal to the piece of textile to be separated and also in a direction parallel to the transport direction of the second conveyor makes it possible to control kinetic sequences for both the grippers independently of each other, whereby working in two planes is made possible and the material gripped is held freely movable and without tension. This results in a higher throughput i.e. a greater output per unit of time.

The invention is explained below with reference to a diagrammatic drawing.

Illustrations:

Figure 1 front view of essential components of a device as per invention

Figure 2 the same in a side view rotated 90° around the vertical axis

Figure 3 to 6 views similar to the presentation in Figure 2

The drawing shows the essential elements of a device for the transportation of pieces of material 1 cut off a continuous length of material 1, preferably a length of textile and pieces thereof. The

device basically consists of a first discontinuously operating conveyor by means of which the length of material 1 can be pulled or taken from a storage point or storage depot (not shown) and the free end of the continuous length from which pieces are to be cut is held without tension (sagging slightly) or under tension. The device further consists of a second continuously operating conveying device whose transport plane II runs parallel to the transport plane I of the first conveying device and has means for holding the single piece of material 1. The piece of material 1 may be held under tension or without tension, sagging, as shown in Fig. 1. The transport direction of the first conveyor is indicated at 5 in Fig. 1. The transport direction of the second conveyor is as shown in Fig. 1 orthogonal to the drawing plane and indicated in Fig. 2 with the arrow 6. The transport planes I and II of the two conveying devices run parallel and are interspaced above each other. The transport direction 5 of the first conveying device runs parallel to the longitudinal extension of the length of material 1, whereas the transport direction of the second conveyor is oriented at right angles to it.

The first conveyor consists of a clamping device 7 for the length of material 1 and a transport gripper 4, whereby the transport gripper 4 as shown by the arrow 8 can be moved towards and away from the clamping device in the plane I. Between the clamping device 7 and the transport gripper 4 a separating device 9 is arranged close to the clamping device 7 by means of which the length of material 1 is cut to produce a single piece of material 1. A separating device 9 in the form of scissors is shown in the exemplified embodiment. This may consist in manually operated scissors, a motor-operated rotary cutting disc or a pneumatically or motor-operated cutting bar or the like.

The cut-off piece of material 1 is released by the clamping device 7 and the transport gripper after or during the cutting and moved by a transfer device from the plane I of the first conveyor into the plane II of the second conveyor.

The transfer device consists of a clamping device 2. This in turn consists of two pairs of clamping jaws 12, 13 one of which (12) is arranged above the length of material 1 and the other (13) below the length of material 1, whereby the cut-off piece of material 1 is held in position by closing of the clamping jaws 12, 13 of the clamping device 2. Subsequently the clamping jaws 12, 13 of the clamping device 2 with the single piece of material 1 are moved from the dotted position shown in Fig. 1 to the position indicated by a solid line in Fig. 1. The clamping jaws 12, 13 of the clamping device 2 hold the single piece of textile at a slight distance from its lateral edges so that the edges which are oriented at right angles to the transport direction 5 laterally project from the clamping jaws. The clamping device 2 is moved into the plane of the second conveyor. The kinetic sequence of the clamping jaws 12, 13 will be further explained below. The second conveyor is formed by conveyor belts 3 which are endless belts. The bottom run of the conveyor belts is braced on an opposite surface 10. As the clamping device 2 is arranged beside the conveyor belt 3 of the second conveyor as can be seen particularly in Fig. 1, the two elements 2 and 3 can be brought close together in an overlapping position without mutual interference or contact during this movement

As mentioned previously, each clamping device 2 consists of a pair of clamping jaws 12, 13, which preferably are two laterally interspaced pairs of clamping jaws. The clamping jaws 12, 13 are movable independently of each other and specifically both orthogonal to the planes I and II of the length of material 1 and the pieces of material 1 and parallel to the conveying direction of the pieces of material 1 and parallel to the transport direction 6 of the second conveyor, that is to say both in and against this transport direction. The first clamping jaws 12 which are above the piece of material 1 are moved asynchronously or necessarily synchronously in relation to each other.

The same applies to the second clamping jaws 13 which are underneath the pieces of material 1

In a first position which is shown in Fig. 3, the first and second clamping jaws 12, 13 clamp and hold the separated piece of material 1 (in the exemplified embodiment two of such pieces of

material 1) in the plane I of the first conveyor. The movement of the clamping jaws 12, 13 is indicated with the arrows 14, 15. After the separating device 9 has executed the separating cut, the pairs of clamping jaws with the clamping jaws 12, 13 can be moved into the plane II of the second conveyor as can be seen from the sequence in Fig. 3. and Fig. 4. Hereby the clamping jaws 12, 13 remain in clamping position as they move downward and in the drawing to the left as indicated by the arrows 16. Figure 4 shows the position in which the cut-off textile pieces 1 have been transferred to the second conveyor or the transfer process has at least been started. As the illustration in Fig. 4 shows, the clamping jaws 12, 13 are thereby still in the area overlapped by the length of textile 1 above so that the jaw 12 cannot just be moved upwards, because the length of textile 1 prevents this. The clamping jaws 12, 13 are then moved to a second position which is explained in Figures 5 and 6. First the clamping jaws 12, 13 are opened from the clamping position, i.e. the jaw 12 moved slightly upwards orthogonally relative to the pieces of material 1 and the jaw 13 downwards orthogonally relative to the pieces of material 1 . Then the top clamping jaw 12 as indicated by the arrow 17 is moved far enough in the transport direction 6, that is to say at least far enough to be outside the overlap of the length of material 1 above it in the plane I. At the same time the jaw 13 which has moved downward from the clamping position, moves in the direction of the arrow 18, that is to say at least far enough to be outside the overlap of the piece of material 1 in the plane II. Subsequently as shown in Figure 6 both the jaw 12 as indicated by the arrow 19 and the jaw 13 as indicated by the arrow 20 can be moved upwards so that the plane I extends between these two clamping jaws. Simultaneously or subsequently the clamping jaw 12 is then moved as indicated by the arrow 21 to the right and the clamping jaw 13 as indicated by the arrow 22 to the left until the position is reached as shown in Fig. 3 in which the two clamping jaws 12, 13 can be closed again.

The kinetic sequence is repeated.

The free movability of the clamping jaws is achieved by appropriate mounting on the frame of the device, whereby conventional drives can be used for the execution of the kinetic sequences, e.g. pneumatic, hydraulic or servo drives.

Whereas in the exemplified embodiment as per Figures 1 and 2 the piece of material 1 is represented by a single piece, the embodiments as per Figures 3 to 6 show the simultaneous infeed of two continuous lengths of material 1 in the plane I, whereby two single pieces 1 are simultaneously cut off these lengths 1 and are then taken over by the clamping device (clamping jaws 12, 13) and transferred from the first plane into the second plane and to the next conveyor.

The invention is not limited to the exemplified embodiment, but can be varied in many ways within the scope of the disclosure.

All new individual and combined characteristics disclosed in the description and/or drawings are considered essential parts of the invention.

**Patent Claims:**

1. Device for the transportation of a flat piece of material (1) cut off a continuous length of material (1), e.g. a piece cut off a length of textile, paper, cardboard, plastic, sheet metal or foil, whereby the piece of material (1) can be transferred in mainly horizontal orientation by a first conveying device to a second conveying device, consisting of the first discontinuously operating conveying device (first conveyor), by means of which a continuous length of material (1) can be pulled or taken from a storage point and the free end of the length from which pieces are to be cut is held without or with tension, as well as the second continuously operating conveying device (second conveyor) whose transport plane (II) runs parallel at a distance to the transport plane (I) of the first conveying device and which has means for holding the cut-off piece of material (1, 1'), whereby the transport direction (5) of the first conveyor runs parallel to the longitudinal direction of the length of material and the transport direction (6) of the second conveyor is oriented at right angles to the longitudinal direction of the length of material, the first conveyor preferably consists of a clamping device (7) for the length of material (1) and a transport gripper (4), whereby the gripper (4) can be moved towards and away from the clamping device (7), preferably a separating device (9) is arranged between clamping device (7) and transport gripper (4) by means of which a piece of material (1) can be separated from the length of material (1), the piece (1) can be moved by a transfer device after or at the same time as being cut off and released by the first conveyor, particularly by the clamping device (7) and the transport gripper (4) from the plane (I) of the first conveyor into the plane (II) of the second conveyor and can be fed to this conveyor. Hereby the transfer device consists of a clamping device (2) by means of which, parallel to areas aligned in the transport direction of the second conveyor (3), preferably the sides of the single piece of material (1) are clamped at a distance from their edges in the plane (I) of the first conveyor and moved by the clamping device (2) into the plane (II) of the second conveyor (3) and the clamping device (2) can be adjusted towards and away from the second conveyor (3) in the plane (II) of this conveyor, **characterised by the fact that each clamping device (2) consists of a pair of clamping jaws (12, 13) or two laterally interspaced pairs of clamping jaws, that the clamping jaws (12, 13) of the clamping jaw pairs are movable independently of each i.e. vertically to the planes of the length of material (1) or pieces of material (1) as well as parallel to the conveying direction (6) of the pieces of material (1) and parallel to the transport direction (6) of the second conveyor and specifically in and against the transport direction, whereby the first clamping jaws (12) above the pieces of material (12) can be moved to each other asynchronously or also synchronously and the second clamping jaws (13) underneath the pieces of material (1) can be moved to each other asynchronously or also synchronously so that in a first position of the clamping jaw pairs the first and second clamping jaws (12, 13) clamp and hold the single piece of material (1) in the plane (I) of the first conveyor and transfer it into the plane (II) of the second conveyor, whereby subsequent to or during the transfer movement both pairs of clamping jaws in**



closed position are movable or have been moved from the first into the second plane to the second conveyor in a second position in which the takeover by the second conveyor has at least begun or already taken place and the piece of material (1) is still within the transfer path from the plane (I) of the first conveyor into the plane (II) of the second conveyor, the clamping jaws (12, 13) have moved from a closed position to an open position, the first clamping jaws (12) advance towards the second conveyor and after completion of the transfer path can be moved back to a position on the other side of (above) the plane (I) of the first conveyor and returned to a third position from which they can move to the first position, whereby furthermore in the second position the second clamping jaws (13) can be moved away from the second conveyor against its transport direction and after completion of the overlap formed by the piece of material (1) transferred to the second conveyor are returned to the third position before (underneath) the plane (I) of the first conveyor from which they can be moved into the first position.

2. Device as per Claim 1, **characterised by the fact that** the kinetic sequence of the clamping jaws (12, 13) of each pair of clamping jaws is regulated in such a way that they simultaneously reach the third position.

3. Device as per Claim 1 or 2, **characterised by the fact that** the lateral interspace between the clamping jaw pairs can be adjusted.



Supplementary claim:

4. Device for the transportation of a single flat piece of material (1) with a first conveying device and a second conveying device, whereby the piece of material (1) can be transferred from the first conveying device to the second conveying device whose transport plane (II) runs at right angles parallel to the transport plane of the first conveying device and which has means for holding the single piece of material (1), whereby the transport direction (5) of the first conveying device and the transport direction (6) of the second device are oriented crosswise to each other, whereby the piece of material (1) is held in the transport plane (I) of the first conveyor by means of holding devices and can be held in position by a transfer device in the first plane (I), but can also be moved by it from the plane (I) of the first conveyor into the plane (II) of the second conveyor and can be fed to this conveyor, whereby the transfer device consists of a clamping device (2) by means of which areas of the piece of material (1) aligned parallel to the transport direction of the second conveyor (3) are clamped in the plane (I) of the first conveyor and the piece (1) is moved into the plane (II) of the second conveyor (3) by means of the clamping device and the clamping device (2) is preferably adjustable in the plane (II) of the second conveyor (3) towards and away from this conveyor, with the following characteristics: Each clamping device (2) consists of a pair of clamping jaws (12, 13) or of two laterally interspaced pairs of clamping jaws. The clamping jaws of the pairs of clamping jaws are movable independently of each other and specifically perpendicularly to the planes (I, II) of the conveying devices and possibly parallel to them and/or to the transport direction (6) of the pieces of material (1) and parallel to the transport direction (6) of the second conveying device i.e. in and against the transport direction, whereby the clamping jaws (12, 13) can be moved by a control device in such a way that in a first position of the clamping jaw pairs the first and the second clamping jaws (12, 13) clamp and hold the separated piece of material (1) in the plane (I) of the first conveyor and transfer it into the plane (II) of the second conveyor, whereby subsequent to or during the transfer movement both clamping jaw pairs or at least the first clamping jaws (12) in closed position are movable or have moved from the first into the second plane to the feed side of the second conveyor in a second position in which the takeover by the second conveyor has at least begun or has been completed and the piece of material (1) is still within the transfer path from the plane (I) of the first conveyor into the plane (II) of the second conveyor, the clamping jaws (12, 13) have moved from a closed position to an open position, the first clamping jaws (12) advance towards the second conveyor or can be adjusted against this direction and after completion of the transfer path of the piece of material (1) can be moved to a position on the other side of the plane (I) to the side of the plane (I) of the first conveyor opposite the plane (II) of the second conveyor and returned to a third position from which they can move to the first position, whereby furthermore in the second position either the second clamping jaws (13) are held stationary and the piece of material (1) is shifted by the movement of the first clamping jaws (12) towards the second conveyor, whereby



after the piece of material (1) has fully traversed the transfer path of the piece of material (1) from the first plane (I) into the second plane (II), the clamping jaws are returned to the third position before the plane (I) of the first conveyor on its side facing the plane (II) of the second conveyor, or the second clamping jaws (13) are adjustable away from the second conveyor against its transport direction and after having moved past the overlap formed by the piece of material (1) transferred to the second conveyor are moved back into the third position before the plane (I) of the first conveyor on its side facing the plane (II) of the second conveyor from which they can be moved into the first position.