(19) DANMARK

(10) **DK/EP 3700325 T3**

Patent- og
Varemærkestyrelsen

(12) Oversættelse af
europæisk patentskrift

(51) Int.Cl.: ***A 01 D 87/02 (2006.01)*** ***A 01 D 43/08 (2006.01)***

(45) Oversættelsen bekendtgjort den: **2021-07-12**

(80) Dato for Den Europæiske Patentmyndigheds
bekendtgørelse om meddelelse af patentet: **2021-06-09**

(86) Europæisk ansøgning nr.: **17794940.1**

(86) Europæisk indleveringsdag: **2017-10-26**

(87) Den europæiske ansøgnings publiceringsdag: **2020-09-02**

(86) International ansøgning nr.: **EP2017077470**

(87) Internationalt publikationsnr.: **WO2019081029**

(84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**

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(54) Benævnelse: **LÆSSEINDRETNING TIL LATERAL FORSKUDT OPSAMLING OG OVERFØRSEL AF HØSTMATERIALE TIL EN TRANSPORTVOGN**

(56) Fremdragne publikationer:
EP-A2- 1 779 716
CH-A- 359 312
DE-U1-202012 103 905
US-A1- 2010 193 411

LOAD TRANSFER DEVICE FOR LATERALLY OFFSET COLLECTION AND TRANSFER OF HARVESTED MATERIAL TO A TRANSPORT VEHICLE

DESCRIPTION

The invention relates to a load transfer device for the laterally offset collection and transfer of harvested material to a transport vehicle.

In agriculture, all kinds of harvested material has to be collected and transported away. Among other things, stalk-like biomass, in particular in the form of straw or other types of grass, is often collected from fields and transported away. Such stalk-like biomass can be moist, withered and dry grass, that is hay, but also cereal straw.

It is widespread to collect grain straw or other stalk-like biomass using so-called round balers and press them into bales. Such round balers are usually pulled by a tractor and driven via a power-take-off shaft of the tractor. Such round balers are shown, for example, in DE 10 2011 109 890 A1 or in DE 33 13 883 A1.

DE 20 2012 103 905 U1 shows a mobile transfer station for transferring loads. A side wall adjoining a receptacle can be folded down into a horizontal position. The side wall is equipped with a conveyor on which the load can be unloaded and then transported in the direction of the receptacle. In the receptacle there is a conveying screw, by means of which the load can be conveyed to an elevating conveyor. The elevating conveyor can convey the load at an angle upwards.

In addition, it is also quite common to collect stalks directly from the ground by means of suitable loading wagons, mostly pulled by means of tractors in the form of forage wagons or the like, and then to transport them away with the same forage wagons. In order to make this possible, such forage wagons usually have collecting units for collecting the harvested material from the ground and often also cutting units for cutting up the collected harvested material. The disadvantage of this procedure is that while the harvested harvested material is being transported away by means of the forage wagon, it can no longer be used to collect further harvested material.

It is the object of the present invention to provide a solution by means of which harvested material, in particular stalk-like biomass, can be collected and transported away in a particularly efficient manner.

This object is achieved by a load transfer device for collecting and transferring

harvested material to a transport vehicle, in particular stalk-like biomass, with the features of claim 1. Advantageous configurations with expedient and non-trivial developments of the invention are specified in the dependent claims.

The load transfer device according to the invention for the laterally offset collection and transfer of harvested material, in particular stalk-like biomass, to a transport vehicle comprises a pivotable unit to pick up the harvested material from the ground in a laterally offset manner and for conveying the harvested material to a shredding unit designed to shred the harvested material, wherein the pivotable unit is pivotable between a use position folded out downwards and laterally in direction of the ground and a stowing position folded in upwards and laterally. Furthermore, the load transfer device has an intermediate store for receiving the shredded harvested material as well as a conveying apparatus arranged in the intermediate store for conveying the shredded harvested material out of the intermediate store to a load transfer unit of the load transfer device, by means of which the shredded harvested material can be conveyed into a load compartment of the transport vehicle arranged laterally besides the load transfer device, in particular over a load compartment wall of the load compartment.

According to an alternative independent aspect of the invention, it can also be provided that the load transfer device does not include the shredding unit. In this case, the harvested material picked up by means of the pivotable unit can be fed directly to the intermediate store unshredded, in particular uncut. In this case, the uncut or unshredded harvested material is conveyed by the conveying apparatus from the intermediate store to the load transfer unit and by means of this unit into the load compartment of the transport vehicle.

In the solution according to the invention, it is thus provided that the load transfer device takes over the collection and transfer of the harvested material, whereby the actual removal of the harvested material can be taken over by a transport vehicle which travels next to the load transfer device during the transfer process. The load transfer device according to the invention can thus be used quasi-continuously for collecting harvested material, in particular in the form of stalk-like biomass, for example from a field, crushing it and storing it temporarily. If a transport wagon is currently in the vicinity, it can travel parallel to the load transfer device and be filled by means of the load transfer unit of the load transfer device. If the respective transport vehicle, in particular its load compartment, has been completely filled, the next transport vehicle can be moved up to

the load transfer device to then fill this transport vehicle.

While the transport vehicle is being changed, the load transfer device can still be used to collect harvested material from the ground, shred it and convey it to the intermediate store of the load transfer device. Only the conveying apparatus is arranged in the intermediate store and the load transfer unit are stopped during the change of the transport vehicles, whereby the harvested material can continue to be picked up and temporarily stored. This means that there are no downtimes or standstill times when changing transport vehicles. In other words, the load transfer device according to the invention makes it possible for the load transfer device, for example, pulled or carried by a tractor or another towing vehicle, to be operated continuously to collect harvested material from the ground, to shred them and to store them temporarily in the intermediate store. By avoiding unnecessary downtimes or standstill times of the transfer device, very high area outputs are possible.

In addition, the solution according to the invention has a further advantage. For example, when driving in tight bends, a transport vehicle to be loaded by means of the load transfer device does not need to drive close to the load transfer device, since the transfer is preferably stopped before tight bends, particularly preferably while driving straight ahead, wherein the harvested material is picked up and temporarily stored by means of the load transfer device. As soon as the load transfer device is back on a straight path, the temporarily stored and shredded harvested material can be transferred to the relevant transport vehicle. This ensures that almost no harvested material is lost, even if the load transfer device has to drive through the tightest curves.

Due to the pivotable unit provided according to the invention, a towing vehicle, for example pulling the load transfer device, does not have to drive over the harvested material to be collected, e.g. arranged in the form of a so-called swath. Instead, the towing vehicle can move laterally offset to the harvested material to be collected, while the pivotable unit can pick up the harvested material in its position of use, which is downward in the direction of the ground and is laterally folded out. In addition, the pivotable unit can also be designed to be relatively wide, since it can be moved into its stowing position, which is folded upwards and to the side, in particular when driving on public roads. On public roads, the load transfer device is not wider than permitted by law, wherein, for example, on a field while picking up the harvested material, a particularly large working width can be realized by pivoting the pivotable unit down sideways. Furthermore, the

pivotable unit also results in a better view, for example for a driver of a tractor, by means of which the load transfer device is pulled while the pivotable unit is arranged in its deployed position of use.

An advantageous embodiment of the invention provides that the pivotable unit has a conveying apparatus for conveying the harvested material to the shredding unit. The conveying apparatus of the pivotable unit can be, for example, a conveying belt by means of which the harvested material can be conveyed in the direction of the shredding unit. The conveying apparatus can, for example, extend essentially over the entire width of the pivotable unit, so that the harvested material can be picked up and conveyed over a particularly large area.

A further advantageous embodiment of the invention provides that, in the position of use of the pivotable unit, the conveying apparatus of the pivotable unit and the conveying apparatus arranged in the intermediate store are aligned with one another. For example, the conveying apparatus arranged in the intermediate store can have a scraper floor. Due to the preferably aligned arrangement of the two conveying apparatus, the harvested material can be conveyed particularly continuously and thus also quickly, if necessary, first to the shredding unit, from there to the intermediate store and from there to the load transfer unit and finally to the load compartment of the relevant transport vehicle. The two conveying apparatus preferably convey at right angles to the direction of travel of the load transfer device.

In a further advantageous embodiment of the invention, it is provided that the conveying apparatus arranged in the intermediate store has a scraper floor arranged in the region of a loading surface of the intermediate store, by means of which the shredded harvested material received in the intermediate store can be conveyed in the direction of the load transfer unit. Other types of conveying apparatus are of course also possible. In particular by means of the scraper floor, the harvested material can be conveyed particularly easily and reliably from the intermediate store in the direction of the load transfer unit.

In addition, it can be provided that the conveying apparatus arranged in the intermediate store has at least one metering roller arranged on a side of the intermediate store facing the load transfer unit, by means of which the harvested material in the intermediate store can be conveyed in the direction of the load transfer unit. Several of these metering rollers are preferably arranged one above the other in the vertical

direction of the load transfer device. By means of the metering rollers arranged one above the other, it is reliably possible to convey the shredded harvested material in the direction of the load transfer unit, in particular when the fill level of the intermediate store increases.

According to a further advantageous embodiment of the invention, it is provided that the conveying apparatus arranged in the intermediate store has a wall delimiting the intermediate store, which wall can be extended and retracted in the direction of the load transfer unit. The wall is preferably mounted so as to be pivotable about an axis which runs in the transverse direction of the load transfer device. For example, the wall can be pivoted by means of hydraulic cylinders in such a way that it is pivoted either away from the load transfer unit or towards it. As a result, the receiving space of the intermediate store can be varied in a particularly simple manner. If the pivotable wall is pivoted in the direction of the load transfer unit, the harvested material which has been picked up and cut in the intermediate store is pressed into the engagement area of the load transfer unit. Alternatively, it is also possible for the delimiting wall to be translationally movable, for example as a whole, in the form of a kind of push-off wall, in order to bring the cut harvested material stored in the intermediate store into the engagement area of the load transfer unit. It is preferably provided that either a scraper floor or the delimiting wall is used, which can be extended and retracted in the direction of the load transfer unit. The metering rollers are preferably used in both cases. In principle, however, it is also possible for scraper floors, metering rollers and extendable and retractable walls to be used in combination.

A further advantageous embodiment of the invention provides that the shredding unit is preceded by a press for compacting the harvested material. If, for example, grass is shredded, in particular cut up, by means of the shredding unit, a particularly high cutting quality can be achieved through the shredding. Overall, the press connected upstream of the shredding unit results in a particularly simple and reliable shredding process with regard to the harvested material.

In a further advantageous embodiment of the invention, it is provided that the press for compacting the harvested material can be moved in the direction of the conveying apparatus of the pivotable unit. If the conveying apparatus of the pivotable unit is, for example, a conveying belt, the press can be lowered from top to bottom in the direction of the conveying belt in order to compact or compress the harvested material

lying on the conveying belt before it passes through the press is conveyed further in the direction of the shredding unit, by means of which the compacted harvested material is then, for example, chopped or cut or otherwise shredded. A distance between the press and the conveying apparatus can be variably adjustable, for example, so that, depending on the harvested material to be compacted and then shredded, a suitable distance can be set between the press and the conveying apparatus, as a result of which a degree of compression can then also be precisely set. It is also possible that after the conveying apparatus of the pivotable unit, that is in relation to the conveying direction of the conveying apparatus, an area for compressing the harvested material is provided. In that case, the press can be lowered, for example, in the direction of this area in order to compress the harvested material before it reaches the shredding unit.

A further advantageous embodiment of the invention provides that the pivotable unit has a roller provided with receiving prongs for collecting the harvested material from the ground. In other words, the pivotable unit can have what is known as a pick-up unit, by means of which, for example, grass or the like can be collected particularly easily. If, for example, the load transfer device is moved along and over a swath, then the roller provided with the pick-up prongs can pick up the harvested material particularly easily and preferably convey it to the said conveying apparatus of the pivotable unit, by means of which the picked up harvested material is then, in turn, conveyed in the direction of the shredding unit.

A further advantageous embodiment of the invention provides that the pivotable unit has a mowing attachment for mowing and then picking up the harvested material from the ground. In this case, by means of the transfer device, the harvested material to be picked up can also be mowed beforehand and then picked up in a single work step. For example, it is also conceivable that the roller provided with the receiving prongs and the mowing attachment are designed to be exchangeable, so that the pivotable unit can be provided with the pick-up system or with the mowing attachment as required.

According to a further advantageous embodiment of the invention, it is provided that the shredding unit has a rotatable roller which is provided with conveyor tines and which cooperates with stationary cutting blades which are preferably arranged in channels. An axis of rotation of the roller preferably runs transversely to the conveying direction of the conveying apparatus arranged in the intermediate store. As soon as the roller provided with the conveyor tines is set in rotation, the conveyor tines convey the

harvested material in the direction of the fixed cutting blades, whereby the harvested material is cut up and then fed to the intermediate store.

Another advantageous embodiment of the invention provides that the shredding unit has a chopper. By means of the chopper it is also possible to shred the harvested material as required. It can also be provided that the transfer device is designed in such a way that the cutting rotor can be exchanged for the chopper and vice versa, so that the appropriate cutting mechanism can be used depending on the harvested material to be shredded.

In a further advantageous embodiment of the invention, it is provided that the load transfer unit can be positioned in a folded-in non-use position and in a folded-out transfer position. For example, the load transfer unit can be formed from several foldable segments, which can be extended and retracted or folded in and folded-out, for example, by means of suitable hydraulic cylinders. For example, it is conceivable that in its folded-in non-use position the load transfer unit can be folded up against the intermediate store or even at least partially into it, so that in the non-use position the load transfer unit can be compactly stowed with respect to the transverse direction of the load transfer device and preferably also with respect to the vertical direction of the load transfer device. If the load transfer unit is then required during operation of the load transfer device to fill the transport vehicle, the load transfer device can, for example, again be folded out hydraulically outwards and upwards.

According to a further advantageous embodiment of the invention, it is provided that the load transfer unit has a conveying belt, a screw conveyor and/or a fan with a conveyor tube connected to it for conveying the chopped harvested material into the load compartment of the transport vehicle. It is thus possible, by means of the load transfer unit, to feed the shredded harvested material in a simple manner to the load compartment of the relevant transport vehicle.

Another advantageous embodiment of the invention provides that the load transfer device is a trailer, a body for a vehicle or a motor vehicle. In the case of a trailer, the load transfer device can, for example, have an axle with wheels arranged on it, as well as a drawbar, so that the load transfer device can be easily attached to a towing vehicle, for example a tractor. Alternatively, it is also possible that the load transfer device is designed as a type of structure for a vehicle, so that the load transfer device can, for example be placed on a chassis or on a loading area of the vehicle in question.

Furthermore, it is also possible for the load transfer device to be self-propelled, that is to say as a motor vehicle.

Finally, a further embodiment of the invention provides that the load transfer device has a connection for an auxiliary drive, in particular for a power-take-off shaft of a tractor. This is particularly advantageous when the transfer device is designed as a trailer. All units of the load transfer device can be driven in a simple manner via the connection for the said auxiliary drive.

Further advantages, features and details of the invention emerge from the following description of preferred exemplary embodiments and on the basis of the drawing. The features and combinations of features mentioned above in the description, as well as the features and combinations of features shown below in the figure description and/or in the figures alone, can be used not only in the combination indicated in each case, but also on their own or in other combinations, without departing from the scope of the invention.

The drawing shows in:

Fig. 1 a perspective view of a first embodiment of a tractor-pulled load transfer device for collecting and transferring harvested material to a transport vehicle, which has a pivotable unit for picking up the harvested material from the ground and an intermediate store for picking up the harvested material, the pivotable unit having a receiving prong equipped roller for collecting the harvested material encompassed by the ground;

Fig. 2 a further perspective view of the first embodiment of the load transfer device, wherein the pivotable unit is arranged in its stowing position folded upwards and to the side;

Fig. 3 a side view of the first embodiment of the load transfer device drawn by means of the tractor;

Fig. 4 a detailed side view of the area A marked in Fig. 3, wherein a conveying belt of the pivotable unit is shown, by means of which the harvested material is conveyed in the direction of a press, behind which a cutting rotor for shredding the harvested material is arranged;

Fig. 5 a side view of the load transfer device according to the sectional plane B-B identified in Fig. 3;

Fig. 6 a detailed view of the area C identified in Fig. 5, the press and the

cutting rotor being shown enlarged;

Fig. 7 a perspective view of a second embodiment of the load transfer device, which in turn is pulled by means of a tractor, wherein this embodiment differs from the first embodiment of the load transfer device in that the pivotable unit has a mowing attachment; and in

Fig. 8 a further perspective view of the second embodiment of the load transfer device, wherein the pivotable unit with the mowing attachment is shown in its stowing position folded upwards and to the side.

Identical or functionally identical elements have been provided with the same reference numerals in the figures.

A first embodiment of a load transfer device 2 drawn by means of a tractor 1 is shown in a perspective view in Fig. 1. The load transfer device 2 comprises a pivotable unit 3 for picking up harvested material 4 from the ground in a laterally offset manner and for conveying the harvested material 4 to a shredding unit 5 designed for shredding the harvested material 4. The pivotable unit 3 can be pivoted between a use position shown here, which is folded out downwards as well as laterally in the direction of the ground, and a stowing position, which is folded upwards as well as laterally.

The load transfer device 2 further comprises an intermediate store 6 for receiving the shredded harvested material 4. In addition, a conveying apparatus 7, which can only be seen in Fig. 5, is also provided in the intermediate store 6, by means of which the shredded harvested material 4 received in the intermediate store 6 can be conveyed in the direction of a load transfer unit 8 of the load transfer device 2. The load transfer unit 8 serves to convey the shredded harvested material into a load compartment of a transport vehicle arranged laterally next to the load transfer device 2, in particular over a load compartment wall of the load compartment, which is not shown here.

In the example shown here, the harvested material 4 has already been mowed, whereby the harvested material 4 is arranged on the ground in the form of a so-called swath. Due to the fact that the pivotable unit 3 can be pivoted into the downward as well as laterally folded out position of use shown here, the tractor 1 can drive laterally next to the swath 4 while the harvested material 4 is picked up by means of the pivotable unit 3. For the actual picking up of the harvested material 4 from the ground, the pivotable unit 3 comprises a roller 10 provided with pick-up tines 9. The roller 10 is set in rotation for picking up the harvested material 4, whereby the pick-up tines 9 pick up the harvested

material 4 and, by means of the rotational movement of the roller 10, convey the harvested material 4 onto a conveying belt 11 of the pivotable unit 3.

The roller 10 and the conveying belt 11 are preferably operated coupled to one another in such a way that the conveying belt 11 is driven as soon as the roller 10 is driven and thus set in rotation. The harvested material 4 conveyed onto the conveying belt 11 is then conveyed in the direction of the intermediate store 6 and thus in the direction of the shredding unit 5.

Since the shredding unit 5 is arranged somewhat above the downwardly pivotable unit 3, the conveying belt 11 preferably has an upwardly inclined shape at its end facing the shredding unit 5. As a result, the harvested material 4 can be fed to the shredding unit 5 in a particularly simple manner.

Within a drawbar 12 of the load transfer device 2, which is designed as a trailer, a cardan shaft, not shown here, can be arranged, which can be connected to a power-take-off shaft of the tractor 1, which is likewise not shown here. This cardan shaft can then in turn be used to drive the shredding unit 5. For example, a transmission can also be interposed in order to drive the shredding unit 5. The power-take-off shaft of the tractor 1 can also be used, for example, to drive the conveying belt 11, the roller 10 and all other parts of the load transfer device 2.

Fig. 2 shows a further perspective view of the first embodiment of the load transfer device 2 drawn by means of the tractor 1. Here, the pivotable unit 3 is arranged in its upwardly as well as laterally folded stowing position. Furthermore, the load transfer unit 8 has also been moved into a folded non-use position. The load transfer unit 8 can, for example, have several segments that can be folded in relative to one another, so that the load transfer unit 8 can be moved from the folded-out transfer position shown in Fig. 1 to the folded-in non-use position shown here in Fig. 2. For this purpose, for example, several unspecified hydraulic cylinders can be arranged on the load transfer unit 8 so that the load transfer unit can be positioned as required between the folded-in non-use position shown here and the folded-out transfer position shown in Fig. 1.

As can be seen, the load transfer unit 8 is in its folded-in non-use position within the intermediate store 6 of the load transfer device 2, so that the load transfer unit 8 can be accommodated in a particularly compact manner. By folding the pivotable unit 3 sideways and upwards and by stowing the load transfer unit 8 within the intermediate store 6 as described, the load transfer device 2 can also be moved over public roads

without any problems in particular, since the load transfer device 2 has a particularly compact design both in the load transverse direction and in the upward direction by folding in or upwards the pivotable unit 3 and the load transfer unit 8.

In Fig. 3, the first embodiment of the load transfer device 2 drawn by means of the tractor 1 is shown in a side view, while the pivotable unit 3 has been arranged in its downwardly and laterally folded usage position in order to pick up the harvested material 4. The roller 10 provided with the pick-up tines 9 travels over the harvested material 4 to be picked up and in the process conveys the harvested material 4 onto the conveying belt 11, by means of which the harvested material 4 is conveyed on to the shredding unit 5.

In Fig. 4, the area A marked in Fig. 3 is shown in a detailed view. In this illustration, the harvested material 4 picked up on the conveying belt 11 of the pivotable unit 3 can be clearly seen while it is being conveyed in the direction of the shredding unit 5. In the case shown here, the shredding unit 5 has a rotatable roller which is provided with conveyor tines and which cooperates with stationary cutting blades. On its outer circumference, the roller 5 has a plurality of the conveyor tines, not shown here, by means of which the harvested material 4 is conveyed in the direction of the fixed cutting blades, not shown here, which are preferably arranged in respective channels. The cutting blades then shred the harvested material 4. In relation to the conveying direction of the conveying belt 11, the shredding unit 5 is also preceded by a hydraulic press 13. Before the harvested material 4 reaches the shredding unit 5, the harvested material 4 is compressed by means of the hydraulic press 13. As a result, the cutting quality of the harvested material 4 can be increased.

In Fig. 5, the first embodiment of the load transfer device
1 is shown along the sectional plane B-B marked in Fig. 3. In this sectional view, the previously mentioned conveying apparatus 7 can be seen, which is arranged inside the intermediate store 6. The conveying apparatus 7 may, for example, have a scraper floor. According to the present representation, the harvested material 4 is thus first conveyed by means of the conveying belt 11 to the left in the direction of the hydraulic press 13, which is not identified in more detail here, and from there further in the direction of the shredding unit 5, which is designed as a cutting rotor.

From the shredding unit 5, the shredded or cut up harvested material 4 then passes into the intermediate store 6 and can be moved further to the left to the extended load transfer unit 8 by means of the conveying apparatus 7. The load transfer unit 8 can, for

example, have an integrated conveying belt, not shown here, by means of which the shredded harvested material 4 can be transported to a transport vehicle, not shown here. The shredded harvested material 4 can thus be conveyed from the intermediate store 6, for example over a load compartment wall of a load compartment of the transport vehicle.

The tractor-trailer combination formed by the load transfer device 2 and the tractor 1 can therefore drive alongside a transport vehicle while the harvested material 4 is collected from the ground, compacted, shredded and then conveyed to the transport vehicle. If the load compartment of the transport vehicle has been completely filled, for example, the load transfer device 2 can continue to pick up and temporarily store harvested material 4 due to its intermediate store 6 without having to transfer the harvested material 4 to a transport vehicle.

The combination formed from the tractor 1 and the load transfer device 2 can therefore continue to travel while, for example, another, still empty transport vehicle approaches and positions itself next to the load transfer device 2 during the drive. As soon as the transport vehicle with its load compartment has been positioned laterally next to the load transfer device 2 at a suitable location below the load transfer unit 8, the said conveying belt, for example, which is integrated in the load transfer unit 8, can be activated together with the conveying apparatus 7 in the intermediate store 6 in order to feed the harvested material 4, which has been temporarily stored and cut in the intermediate store 6, to the load compartment of the still empty transport vehicle.

In Fig. 6, the area C identified in Fig. 5 is shown in an enlarged detailed view. In the present detailed view, the hydraulic press 13 and the shredding unit 5, which is designed as a cutting rotor, can be clearly seen again. According to the present illustration, the picked up harvested material 4 is conveyed by means of the conveying belt 11 of the pivotable unit 3 to the left in the direction of the hydraulic press 13, by means of which the harvested material 4 is first compacted and then only shredded or cut up by means of the shredding unit 5.

In Fig. 7, a second embodiment of the load transfer device 2 is shown in a perspective view while it is being pulled by means of the tractor 1. The second embodiment of the load transfer device 2 differs from the first embodiment of the load transfer device 2 only in that the pivotable unit 3 has a mowing attachment 14 instead of the roller 10 provided with the pick-up tines 9, only a cover 15 of the mowing attachment

14 being visible because the pivotable unit 3 is shown in its in the direction of the floor down and laterally folded-out position of use.

The second embodiment of the load transfer device 2 is therefore also able, due to the mowing attachment 14, to independently mow the harvested material 4 to be picked up. The mowing attachment 14 then conveys the mown harvested material 4 in turn onto the conveying belt 11 of the pivotable unit 3, from where it arrives in the intermediate store 6 in the manner as previously described.

In Fig. 8, the second embodiment of the load transfer device 2 drawn by means of the tractor 1 is shown in a further perspective view, with the pivotable unit 3 arranged in its upwardly as well as laterally folded stowing position. The load transfer unit 8, as already described in connection with Fig. 2, has also again been arranged in its folded-in non-use position. In the present illustration, the view of the underside of the mowing attachment 14 is revealed.

In relation to the intended direction of travel, the load transfer unit 8 was always shown arranged to the right of the intermediate store 6 and the pivotable unit 3 was always shown to the left of the intermediate store 6. Of course, a mirror-inverted arrangement can also take place, in which the transfer unit 8 is arranged on the left and the pivotable unit 3 is arranged on the right of the intermediate store 6. It is essential that the load transfer unit 8 and the pivotable unit 3 are arranged on opposite sides of the intermediate store 6.

REFERENCE NUMERALS

1	Tractor
2	Load transfer device
3	Pivotable unit
4	Harvested material
5	Shredding unit
6	Intermediate store
7	Conveying apparatus
8	Load transfer unit
9	pick-up tines
10	Roller
11	Conveying belt
12	Drawbar
13	Press
14	Mowing attachment
15	Covering

Patentkrav

1. Læsseindretning (2) til lateral forskudt opsamling og overførsel af høstmateriale (4), især halmlignende biomasse, til en transportvogn omfattende

- en drejelig enhed til at transportere høstmaterialet (4) til en findelingsenhed (5) udformet til at findele høstmaterialet, hvor den drejelige enhed (3) er drejelig mellem en anvendelsesposition udfoldet nedad og til siden i retning af jorden og en opbevaringsposition sammenfoldet opad og til siden;
- et mellemlager (6) til at modtage det findelte høstmateriale (4);
- et transportapparat (7) anbragt i mellemlageret (6) til at transportere det findelte høstmateriale (4) ud af mellemlageret (6) til en læsseenhed (8) i læsseindretningen (2), ved hjælp af hvilken det findelte høstmateriale (4) kan transporteres ind i et lastrum i transportkøretøjet, der er anbragt lateralt ved siden af læsseindretningen (2), især over en lastrumsvæg i lastrummet,

kendetegnet ved, at den drejelige enhed (3) er yderligere konfigureret til lateral forskudt opsamling af høstmaterialet (4) fra jorden.

2. Læsseindretning (2) ifølge krav 1,
kendetegnet ved, at
den drejelige enhed (3) har et transportapparat (11) til at transportere høstmaterialet (4) til findelingsenheden (5).

3. Læsseindretning (2) ifølge krav 2,
kendetegnet ved, at
i anvendelsespositionen af den drejelige enhed (3) flugter transportapparatet (11) af den drejelige enhed (3) og transportapparatet anbragt i mellemlageret (6) med hinanden.

4. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
transportapparatet (7) anbragt i mellemlageret (6) har en transportkæde anbragt i området af en læsseflade af mellemlageret (6), ved hjælp af hvilken det findelte høstmateriale (4) modtaget i mellemlageret (6) kan transporteres i retning af

læsseenheden (8).

5. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
transportapparatet anbragt i mellemlageret (6) har mindst en doseringsvalse, som er anbragt på en side af mellemlageret (6), som vender mod læsseenheden (8), ved hjælp af hvilken doseringsvalse det findelte høstmateriale (4) modtaget i mellemlageret (6) kan transporteres i retning af læsseenheden (8).

6. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
transportapparatet anbragt i mellemlageret (6) har en væg, som afgrænser mellemlageret (6), og som kan trækkes ud og ind i retning af læsseenheden (8).

7. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
findelingsenheden (5) er forbundet opstrøms med en presse (13) til at komprimere høstmaterialet (4).

8. Læsseindretning (2) ifølge krav 7,
kendetegnet ved, at
pressen (13) til at komprimere høstmaterialet (4) er bevægelig i retning af den drejelige enheds (3) transportapparat (11).

9. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
den drejelige enhed (3) har en valse (10) forsynet med opsamlingstænder (9) til at opsamle høstmaterialet (4) fra jorden.

10. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
den drejelige enhed (3) har en mejemaskine (14) til at meje og efterfølgende opsamle høstmaterialet (4) fra jorden.

11. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
findelingsenheden (5) har en roterbar valse forsynet med transporttænder, hvilken valse interagerer med ubevægelige skæreblade, som fortrinsvis er anbragt i kanaler.

12. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
findelingsenheden (5) har en halmsnitter.

13. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
læsseenheden (8) kan placeres i en sammenfoldet ikke-anvendelsesposition og i en udfoldet læsseposition.

14. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
læsseenheden (8) til transport af det findelte høstmateriale (4) i transportvognens lastrum har et transportbånd, en snekketransportør og/eller en blæser med et transportrør forbundet dertil.

15. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
læsseindretningen (2) er en anhænger, et karrosseri til et køretøj eller et motorkøretøj.

16. Læsseindretning (2) ifølge et af de foregående krav,
kendetegnet ved, at
læsseindretningen (2) har en tilslutning til et kraftudtag, især til en kraftudtagsaksel på en traktor (1).

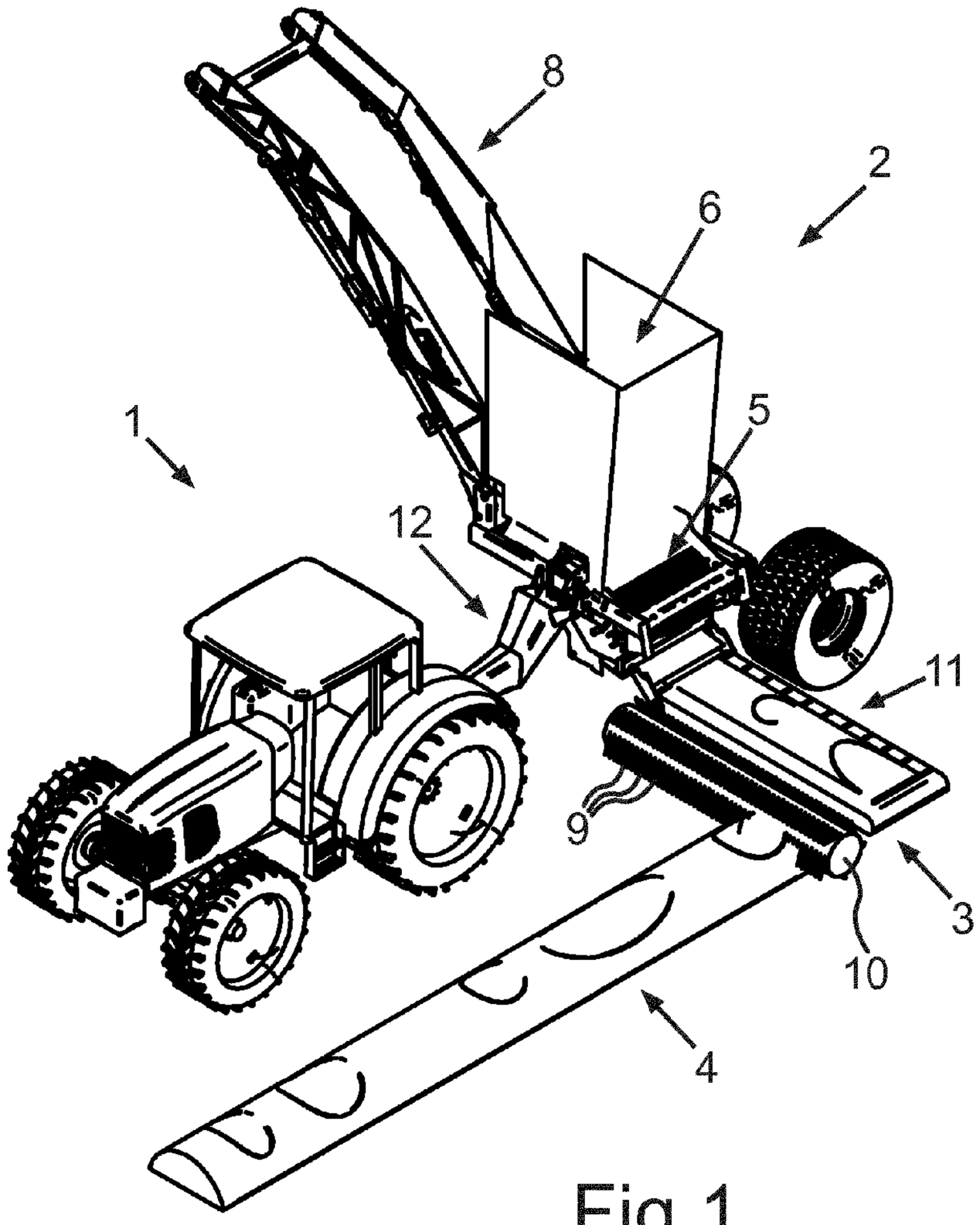

Fig.1

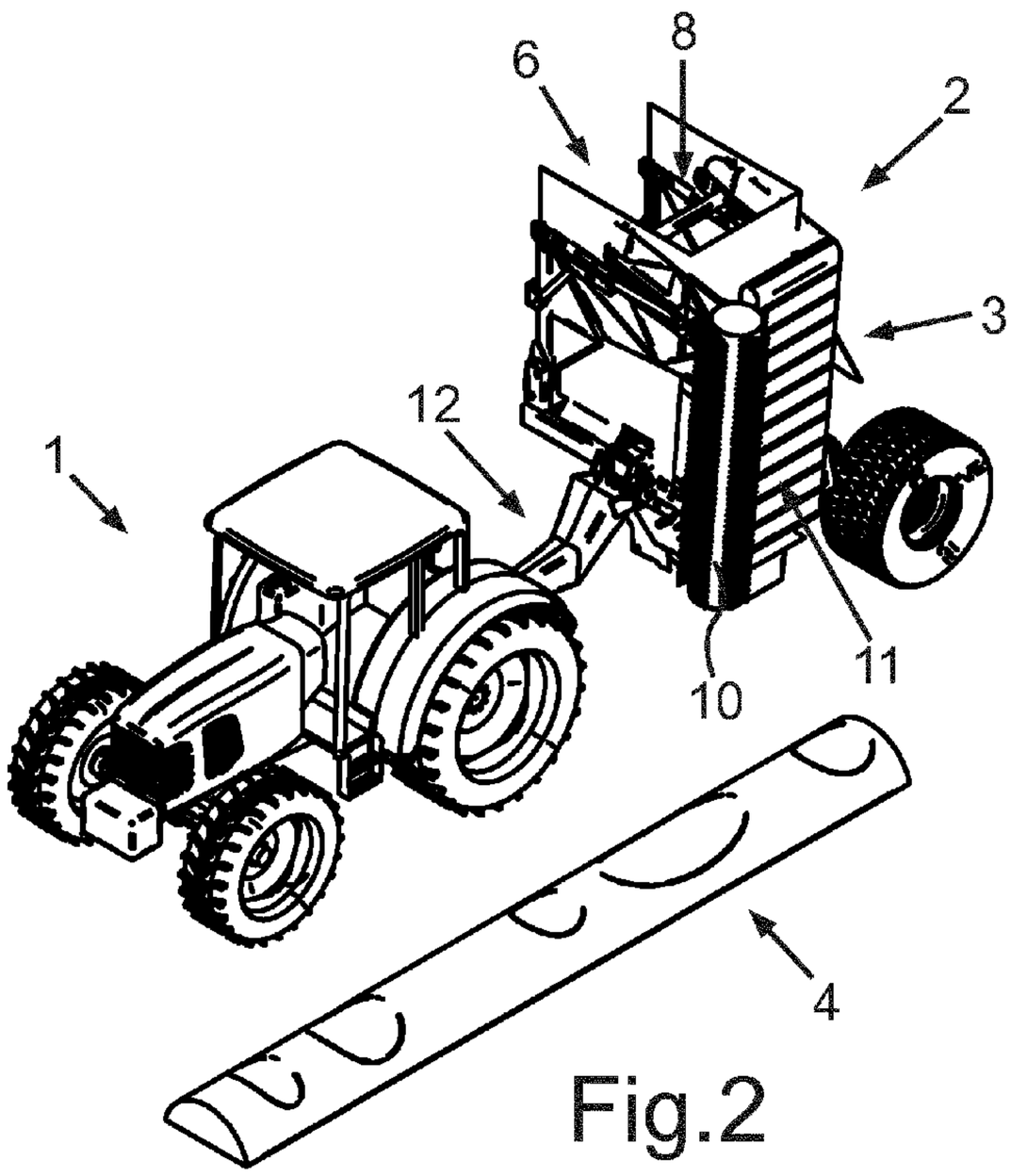

Fig.2

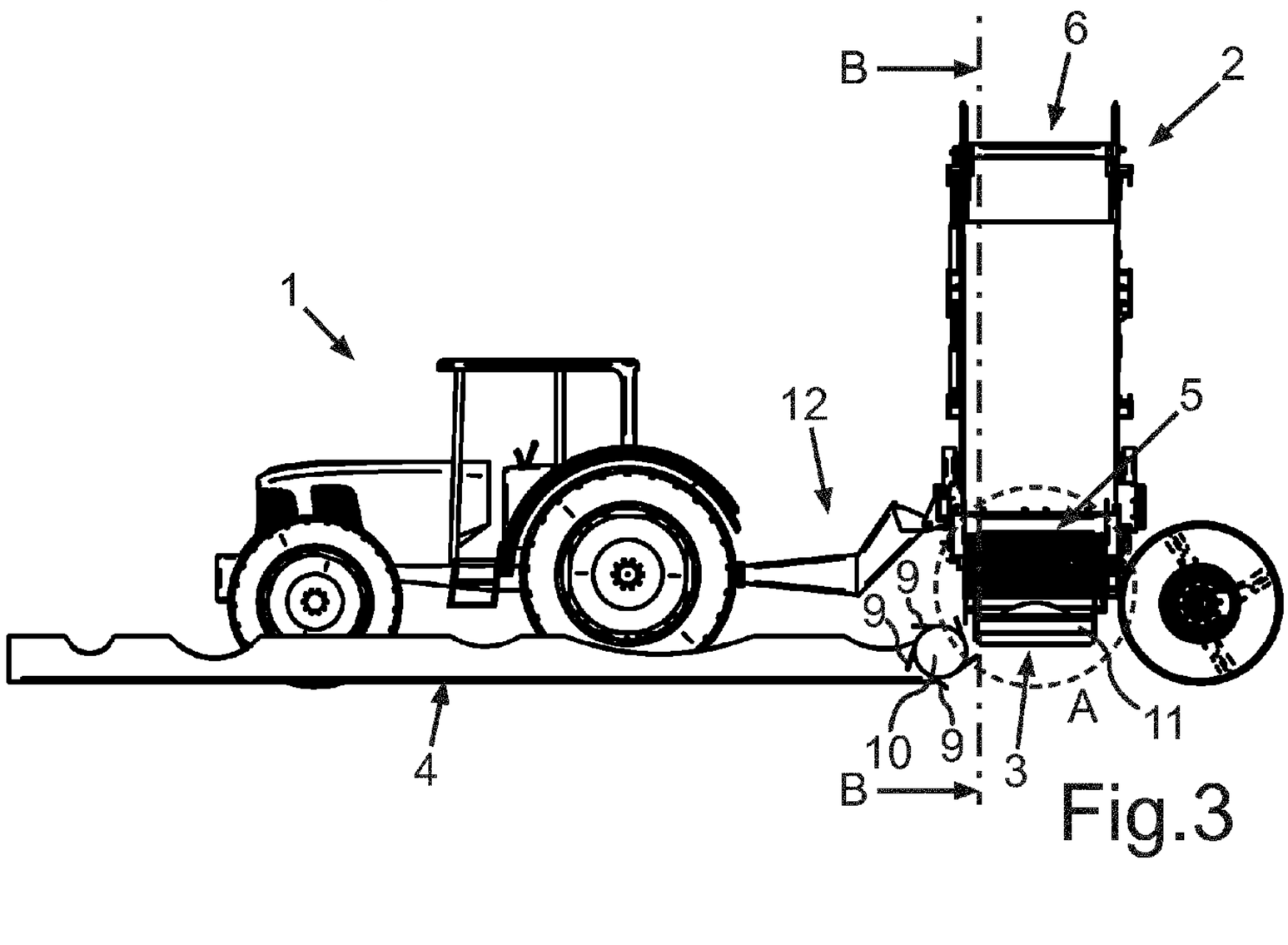

Fig.3

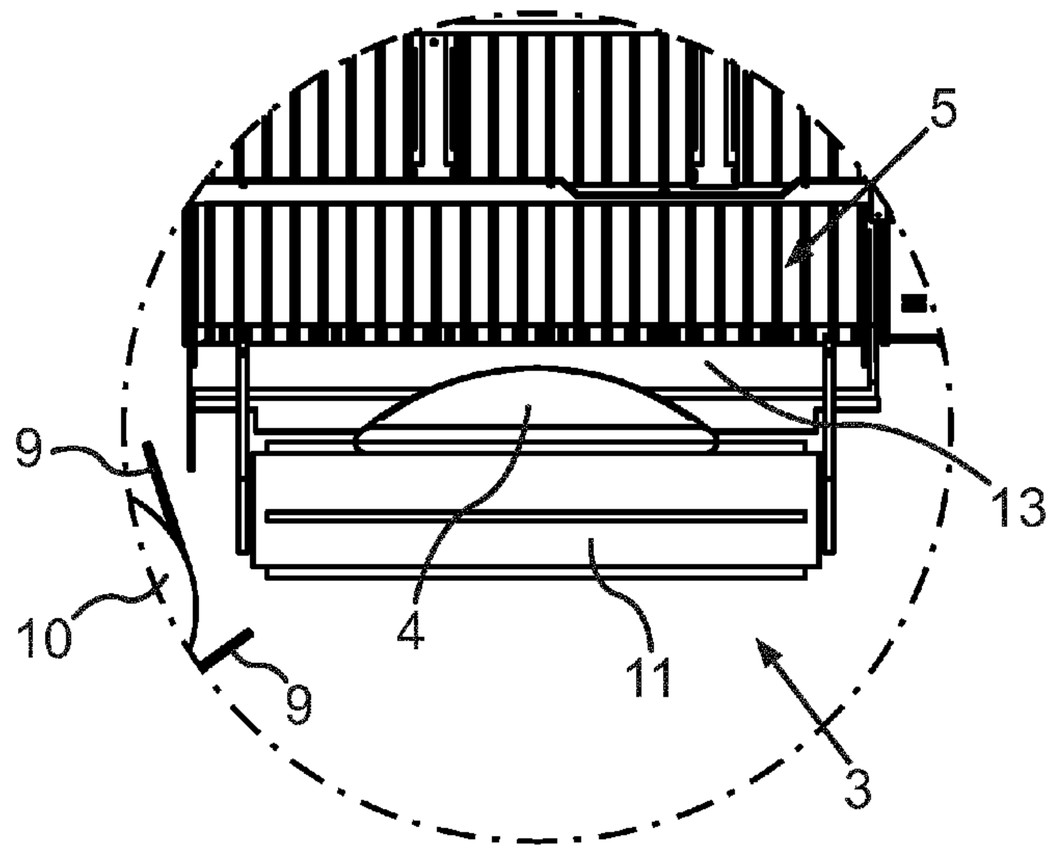

Fig.4

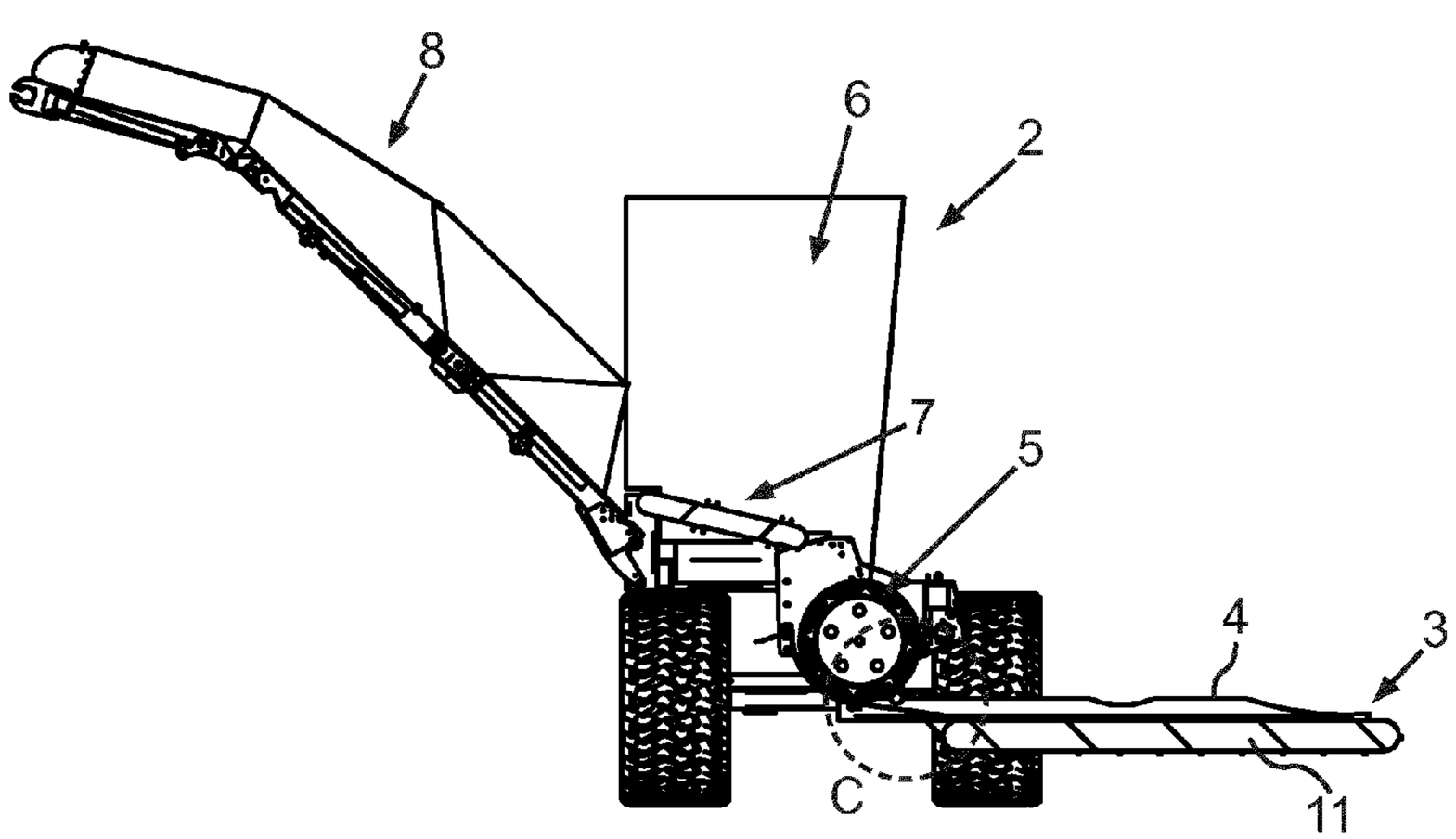

Fig.5

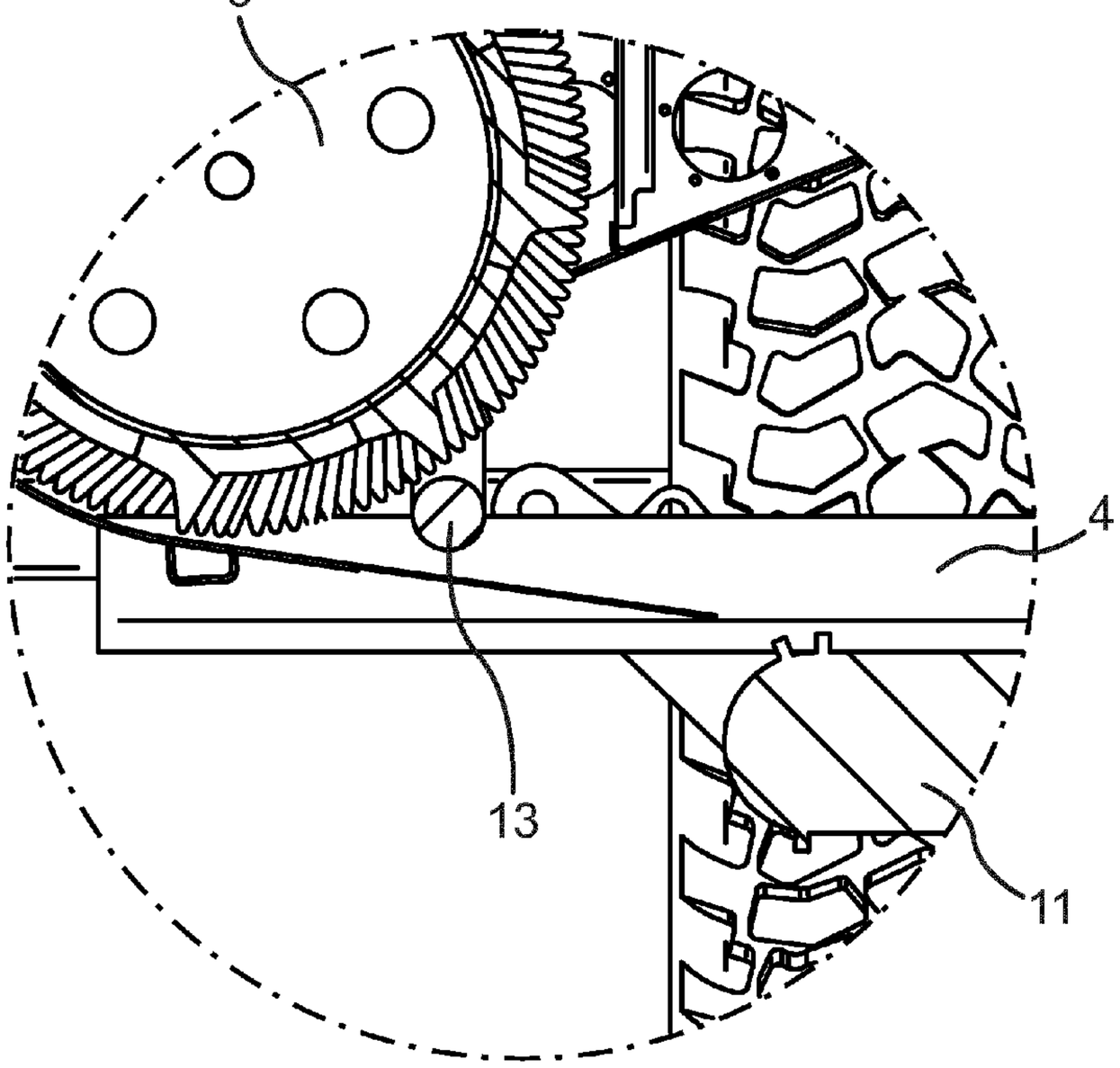

Fig.6

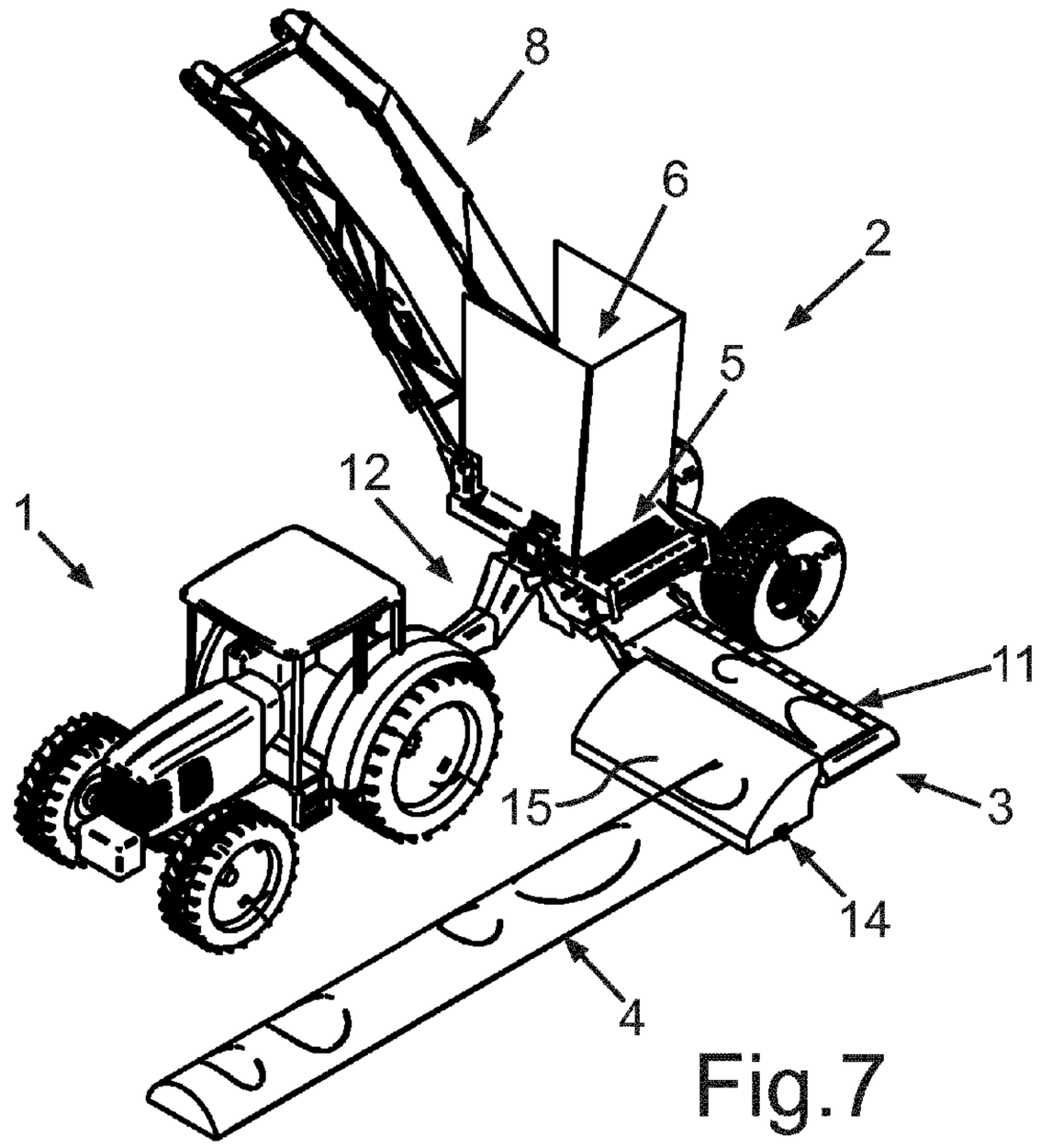

Fig.7

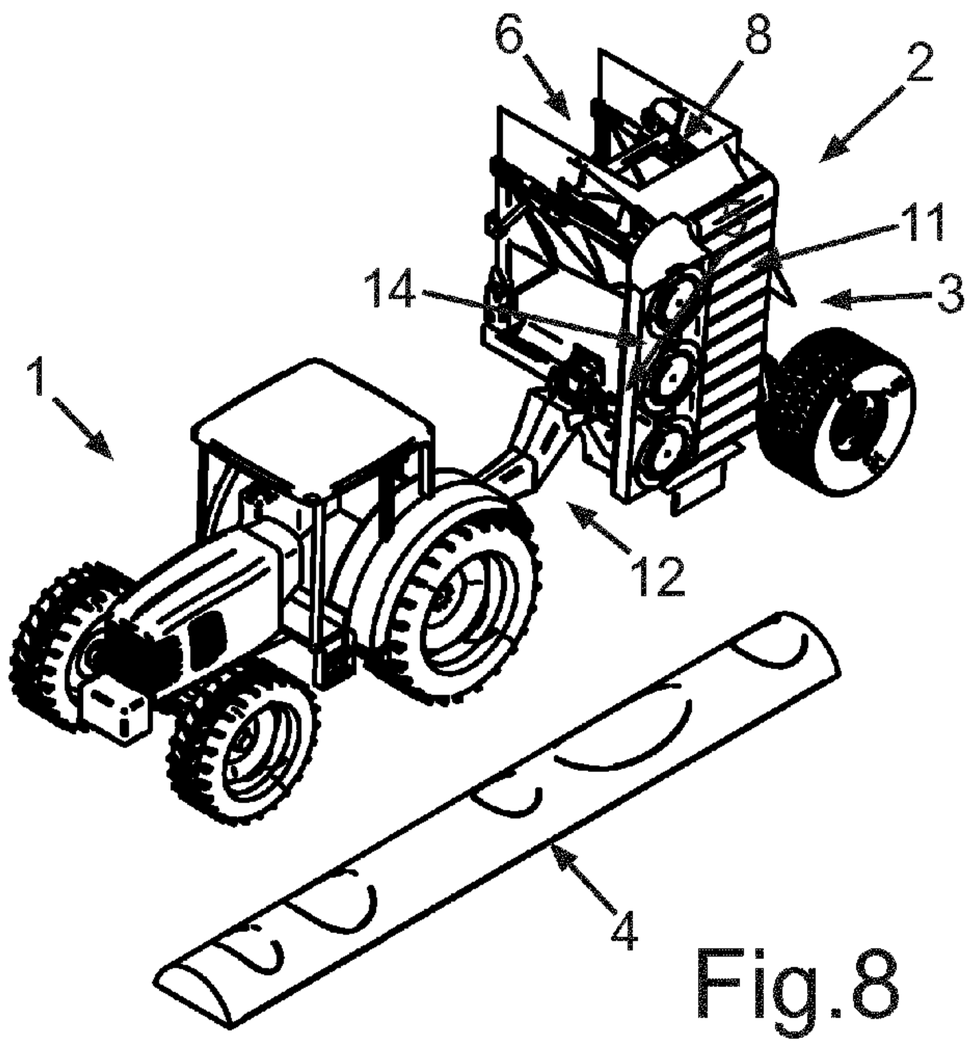

Fig.8