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(54) Silage distributor

(57) A movable silage block distributor (1) in the form of a truck or trailer (2) comprises a tiltable loading member (15) at end end, means (3, 4) for coupling the truck or trailer (2) to a tractor at the other end, and means (22—24) for loosening the silage block, and means (25) for supplying the fodder to the feeding location, and drive means for operating the loading members (15), the fodder loosening means (22—24) and/or the fodder supply means (25), the loading member (15) being connected to a linkage (7) pivotally connected to the frame of the truck (2), which linkage (7) is likewise connected to means through which, a substantially constant height of the coupling member of the drawbar relative to the ground may be maintained while simultaneously the rear of the truck (2) is movable downwardly approximately to the ground and the loading member (15) is tiltable from a position approximately at right angles to the loading platform (21) to a position in which it approximately forms an extension of the loading platform (21), and *vice versa*.

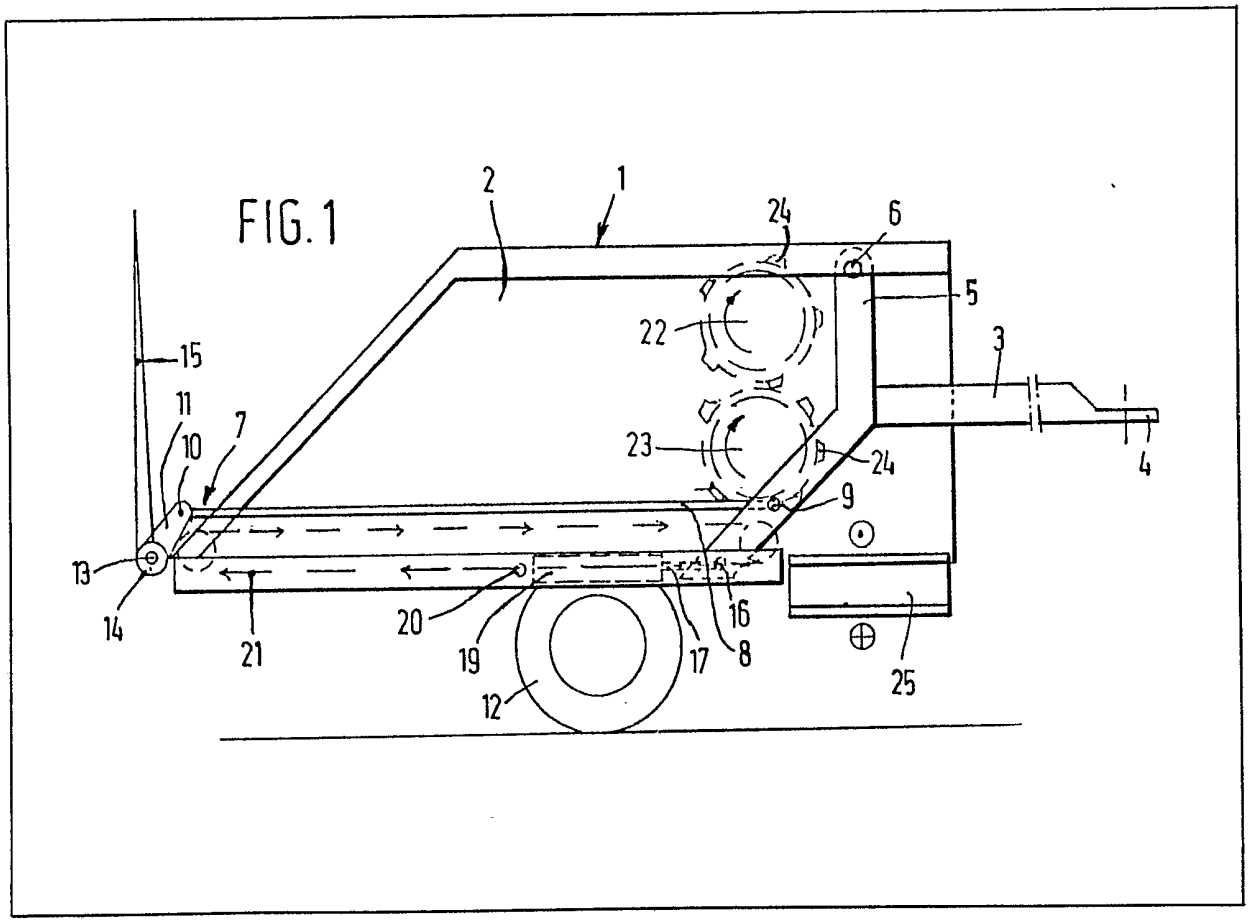

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FIG. 1

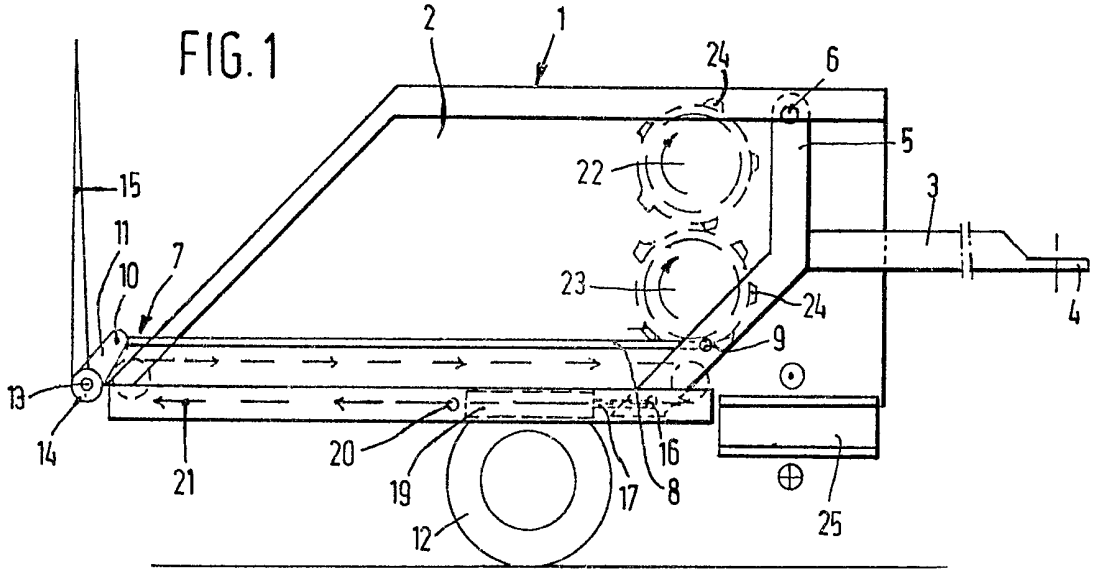
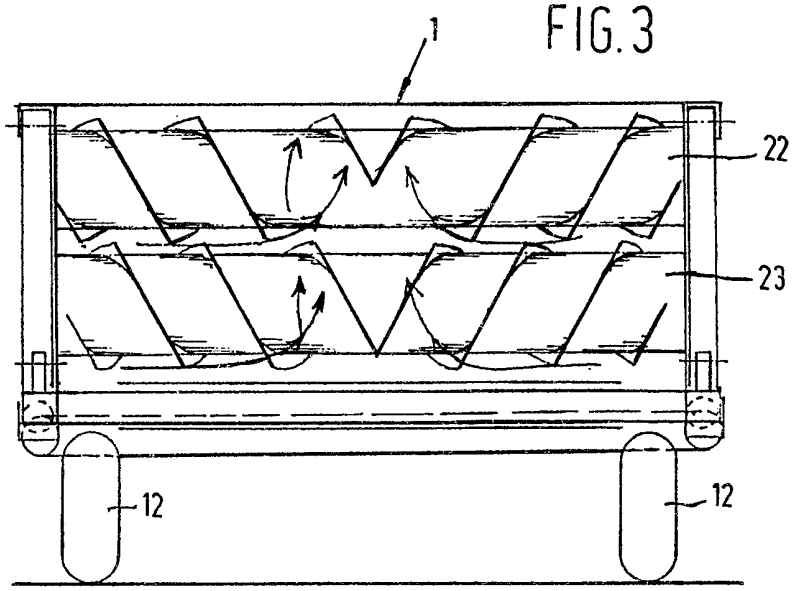


FIG. 3



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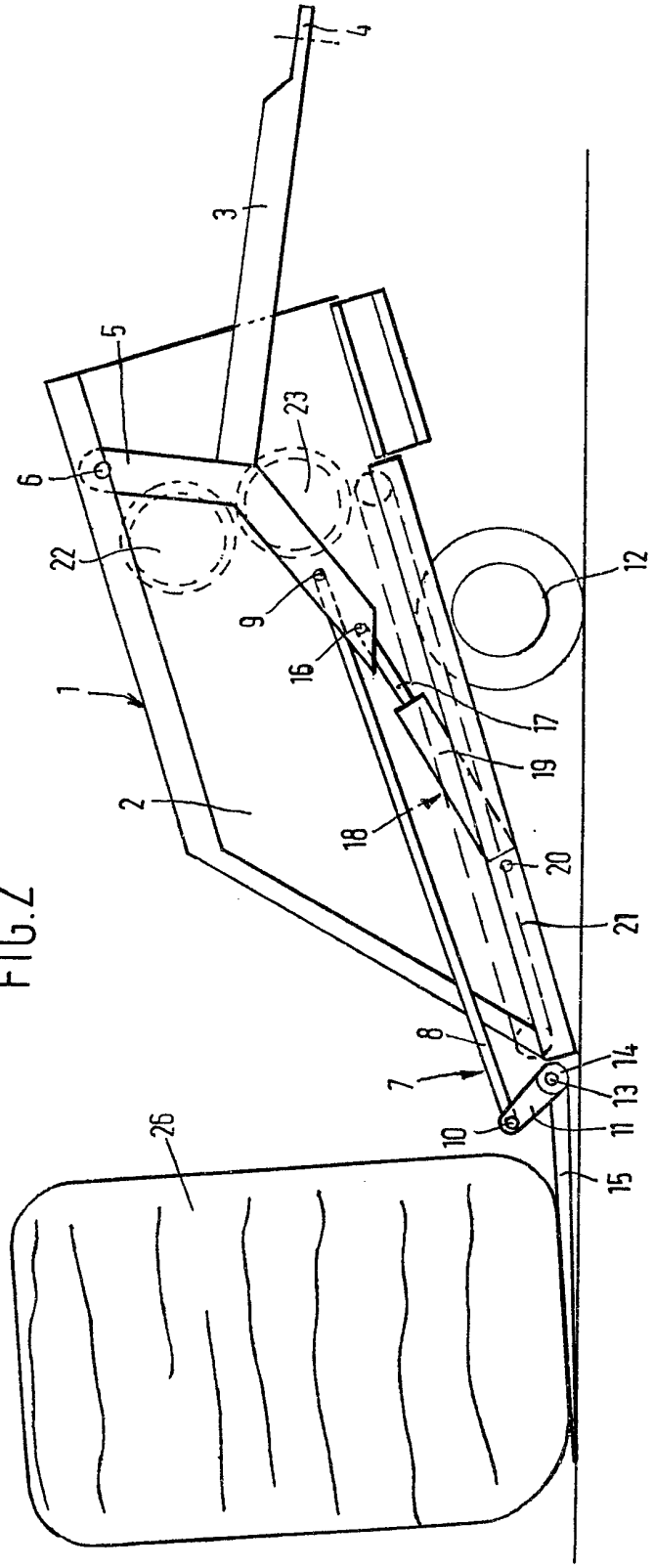

FIG.2

SPECIFICATION

Silage distributor

The invention relates to a silage distributor for movement by a vehicle, and comprising a wheeled truck or trailer with a drawbar and coupling member at the front end, a loading platform at the rear end provided with a loading member tiltable between a first position approximately at right angles to the loading platform and a second position approximately forming an extension of the loading platform, for receiving a silage block and placing it on the loading platform, silage loosening means for loosening the silage block, fodder supply means for laterally supplying loosened silage to a feeding location and drive means for operating the loading member and/or the loosening means and/or the supply means.

Such a movable silage block distributor is known from Landbouwmechanisatie 33 (1982) 6 June, page 587.

The invention seeks to provide a novel, mechanically operable silage block distributor.

According to the invention there is provided a silage distributor for movement by a vehicle and comprising a wheeled truck or trailer with a drawbar and coupling member at the front end, a loading platform at the rear end provided with a loading member tiltable between a first position approximately at right angles to the loading platform and a second position approximately forming an extension of the loading platform, for receiving a silage block and placing it on the loading platform, silage loosening means for loosening the silage block, fodder supply means for laterally supplying loosened silage to a feeding location and drive means for operating the loading member and/or the loosening means and/or the supply means, wherein the loading member is connected to a linkage pivotally connected to the frame of the truck or trailer, and to means for maintaining the coupling member of the drawbar at a substantially constant height relative to the ground, the rear of the truck being displaceable upwardly and downwardly between an upright position and a position approximately at ground level and the loading member being tiltable simultaneously with the rear end of the truck or trailer between its first and second position respectively.

One or more of the drive means may be hydraulically operable, the linkage may comprise a linkage pair on either side of the truck or trailer each linkage thereof comprising an intermediate bar connected to the draw bar and connected pivotally towards one end to the frame of the truck, and towards the other end to an hydraulically operable cylinder-and-piston assembly which is pivotally connected to the frame of the truck or trailer and to one end of a draw link, the other end of which draw link being pivotally connected to a lever connected to the loading member.

By coupling the distributor to a tractor, an effective use can be made of the hydraulic system or of other drive systems for operating the drive means such other drive systems include the power take-off of the tractor. There can thus be obtained a combination which can be entirely operated from the tractor by one man. A construction of the silage distributor in which the rear of the truck or trailer is displaceable downwardly approximately to the ground and according to a preferred embodiment, in which the loading member of the distributor is provided with a plurality of prongs, makes it possible to design the loading member as an assembly of a shaft connected to the levers and provided at a short distance from the rear of the truck, to which shaft the prongs are fixedly attached, the prongs being tiltable between a position approximately at right angles to the loading platform and a position approximately forming an extension of the loading platform.

One embodiment of a silage distributor according to the invention will now be described in greater detail, by way of example, with reference to the drawings, in which:—

Figure 1 is a side view of a silage distributor provided with prongs in the position in which it can be coupled to a tractor (not shown).

Figure 2 shows the distributor of Figure 1 in the loading position, and

Figure 3 is a rear view of the distributor shown in Figure 1, in which the prongs are omitted for the sake of clarity.

The silage distributor 1 comprises a truck or trailer 2, having wheels 12, the truck being provided at the front with a drawbar 3 having an eye 4. On both sides of the truck a linkage 7 is provided. The drawbar 3 is fixedly attached to a cranked intermediate bar 5 associated with the linkage 7 and pivotally connected by a pivot 6 to the frame of the truck 2.

A further part of the linkage 7 comprises a draw link 8, which is connected by a pivot 9 at one end to the intermediate bar 5, while the other end is connected to a lever 11 by a pivot 10.

The lever 11 is fixedly connected to a sleeve 14 provided about the shaft 13, to which sleeve prongs 15 are fixedly connected.

For operation of the linkage 7 the intermediate bar 5 is pivoted by a pivot 16 to the piston rod 17 of the cylinder-and-piston assembly 18, the cylinder 19 of which is pivotally connected by the pivot 20 to the frame of the truck 2. In the bottom of the truck there is disposed a conveyor belt 21, advantageously designed as a slat conveyor.

At 22 and 23 are shown two coacting screw conveyor rollers rotating in the same sense and handed in such a way that the material to be conveyed is conducted from the ends of the rollers to the centre. At suitably chosen distances, metal sheets 24 are welded onto the screw thread, in the plane thereof.

At 25 is indicated an hydraulically driven conveyor belt, the conveying direction of which can be reversed.

The operation of the silage distributor 1 is as follows:—

From the position shown in Figure 1, in which

the distributor is coupled via a drawbar 3 and eye 4 to a tractor (not shown) and is likewise connected to the hydraulic system of the tractor, the cylinder-and-piston assembly 18 is energized from the tractor, so that the piston rod 17 is forced outwardly. Through intermediary of the linkage 7, the rear of the truck 2 is thereby forced substantially to the ground, while simultaneously, via the draw link 8 associated with the linkage 7 and the lever 11, the prongs 15 are extended to the position shown in Figure 2. The silage distributor is then driven backwards, while the prongs are pushed between the silage block 26 and the ground. By reverse movement of the piston rod 17 in the cylinder 19, the rear of the truck is lifted, and simultaneously the prongs 15 are drawn up, as a result of which the silage block 26 is tilted onto the slat conveyor 21 and is retained at the rear by the now vertically extending prongs 15. By movement of the slat conveyor 21, in the direction indicated by the arrows by an hydraulic motor connected to the hydraulic system of the tractor, the baled block is held against the rotating rollers 22, 23, which are driven via the power take-off of the tractor. The sheets 24 claw the silage from the silage block. The thus loosened fodder is conveyed towards the centre of the rollers and thereby falls onto the conveyor belt 25 which conveys it to the right or to the left. When the tractor is moving, it is thus possible to deposit a metered fodder material track at the feeding location, e.g. in a manger.

CLAIMS

1. A silage distributor for movement by a vehicle, and comprising a wheeled truck or trailer with a drawbar and coupling member at the front end comprising a loading platform, at the rear end provided with a loading member tiltable between a first position approximately at right angles to the loading platform and a second position approximately forming an extension of the loading platform, for receiving a silage block and placing it on the loading platform, silage loosening means for loosening the silage block, fodder supply means for laterally supplying loosened silage to a feeding location and drive means for operating the loading member and/or the loosening means and/or the supply means, wherein the loading member is connected to a linkage pivotally connected to the frame of the truck or trailer, and to means for maintaining the coupling member of the drawbar at a substantially constant height relative to the ground, the rear of the truck being displaceable upwardly and downwardly between an upright position and a position approximately at ground level and the loading member being tiltable simultaneously with the rear end of the truck or trailer between its first and second positions respectively.

2. A distributor according to claim 1, wherein one or more of the drive means are hydraulically operable, and linkage comprises a linkage pair on either side of the truck or trailer, each linkage thereof comprising an intermediate bar connected to the drawbar and pivotally connected towards one end to the frame of the truck or trailer, and towards the other end to an hydraulically operated cylinder-and-piston assembly, which is pivotally connected to the frame of the truck or trailer, and to one end of a draw link the other end of which draw link is pivotally connected to a lever connected to the loading member.

3. A distributor according to claim 2, wherein the loading member comprises a shaft connected to the said levers and provided at a short distance from the rear of the truck or trailer, to which shaft a plurality of prongs are fixedly attached, the prongs being tiltable between a first position approximately at right angles to the loading platform and a second position approximately forming an extension of the loading platform.

4. A silage distributor substantially as described herein with reference to the drawings.

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