

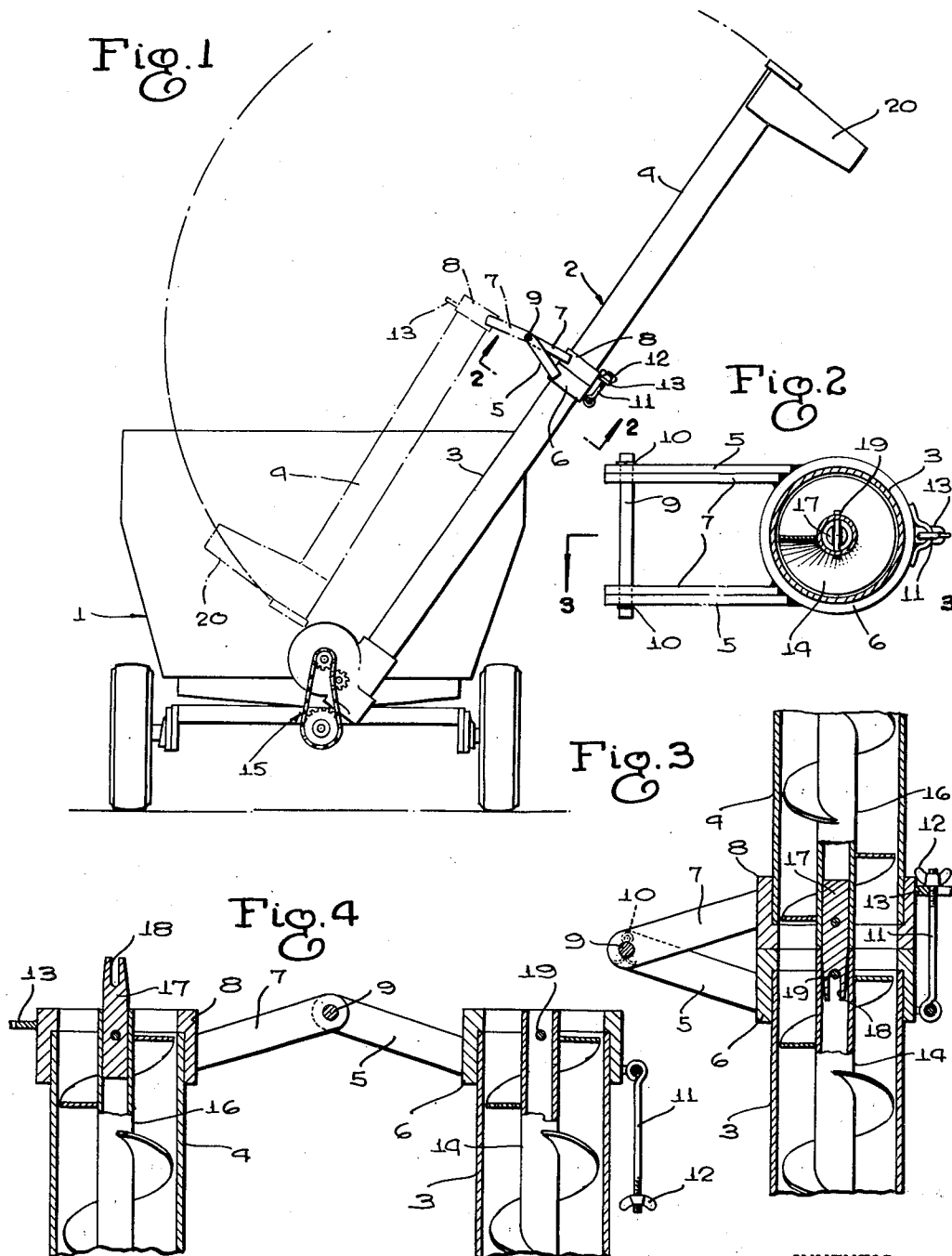
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VEHICLE MOUNTED LOAD DISCHARGING ELEVATOR

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VEHICLE MOUNTED LOAD DISCHARGING ELEVATOR

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2 Claims. (Cl. 198—115)

This invention relates to load discharging elevators of the type used in connection with mobile wagons.

An object of the invention is to provide a load discharging elevator in which the elevator is made of sections which may be shifted to a position to lessen the tendency of the grain and feed from packing so tightly as to make it difficult to again start the contained auger conveyor when the associated wagon is moved from place to place.

Another object of the invention is to provide a load discharging elevator in which the sections of the elevator may be moved from operative to inoperative positions with facility and ease.

Other objects and advantages of the invention will be apparent from the ensuing description considered in conjunction with the attached drawing in which:

Figure 1 is an end elevational view of a mobile wagon equipped with the elevator of the present invention, the full lines indicating the elevator in operative position and the broken lines indicating the elevator in inoperative position;

Figure 2 is an enlarged sectional view taken on the line 2—2 of Figure 1;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2; and

Figure 4 is a sectional view of the assembly of Figure 3 in the inoperative position.

Referring now to the drawings in more detail, 1 designates a mobile wagon, having a load discharging elevator, 2 of the present invention connected thereto. The elevator comprises a pair of tubular sections 3 and 4 arranged in end to end confronting position connected together at the confronting ends for movement, about an axis transverse with respect to the sections, of the one section 4 from the end to end confronting position, as shown in full lines in Figure 1, to a side by side spaced position with respect to the other section 3, as shown in broken lines in Figure 1. Specifically, the connection between the sections 3 and 4 embodies a pair of links 5 carried by a collar 6 fixed about the confronting end of the section 3 and a pair of links 7 carried by a collar 8 fixed about the confronting end of the section 4, the respective links 5 and 7 being hingedly connected together at their ends by the pin 9. The pin 9 is inserted through apertures formed in the overlapping ends of the links 5 and 7 and is held in place by the cotter pins 10.

As will be noted, the pin is offset laterally from and is disposed transversely of the respective sections. In this connection, the pair of links 5 and the pair of links 7 converge (Figure 3) in a direction away from the coaxially aligned sections, said pairs meeting and being connected at the location of the pin. As a result, the convergent pairs form a V-shaped brace when the sections are coaxially aligned, which brace straddles the abutting ends of the sections. The sections are thus reinforced against deviation out of their coaxial relationship. In other words, considering the conveyor as a whole, any tendency of the conveyor to bend out of a straight condition would normally assert itself medially

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between the abutting ends. The triangular brace defined by the convergent pairs of links effectively reinforces the sections against said bending, thus providing a highly desirable bracing action.

Detachable interengaging means is on the confronting ends of the sections 3 and 4 for securing the sections together in the end to end confronting position, such means comprising an eye-bolt 11 having one end hingedly connected to the collar 6, and having the other end portion carrying a threaded wing nut 12, the other end portion being slidably received in a lug 13 projecting from the collar 8.

The eye bolt 11, as will be seen from Figure 3, is disposed laterally, outwardly from the sections, in parallel relation thereto, when the sections are coaxially aligned, with the eye bolt being disposed diametrically opposite the pairs of links 5, 7, and the like the links, straddling the joint between the sections. The eye bolt thus, in co-operating with the links, provides a bracing action tending to prevent deviation of the sections from their coaxially aligned relation.

The section 3 has a rotatable auger conveyer 14 extending therethrough, the lower end being connected to the drive mechanism 15. The section 4 likewise has a rotatable auger conveyer 16 extending therethrough. Detachable coaxing means is on the ends of the augers complementary to the confronting ends of the sections 3 and 4, for connecting the augers together for rotation as a unit when the sections 3 and 4 are in the end to end confronting position, such means including a plug 17 carried by the lower end of the auger conveyer 16, the plug having a slot 18 which detachably receives a pin 19 projecting transversely of the upper end of the auger conveyer 14. It is to be noted that the end of the plug 17 containing the slot 18 is tapered to facilitate its reception within the free end of the auger conveyer 14. A discharge spout 20 depends from the upper end of the section 4.

In use of the elevator in the full line position of Figure 1, the load in the wagon 1 is caused to be moved upwardly through the hollow tubular sections 3 and 4 by means of the auger conveyers 14 and 16 which are rotated by the drive mechanism 15, the load being discharged from the tubular section 4 through the discharge spout 20. To shift the elevator to the inoperative position or the position in which the section 4 and its associated auger conveyer 16 are in the side by side spaced relation with respect to the section 3 and its associated auger conveyer 14, the winged nut 12 is loosened, the bolt 11 is removed from the lug 13 and the section 4 is moved manually to the new position.

With section 4 in the inoperative position, the wagon obviously requires much less clearance when moved from place to place than when the section 4 is in the operative position. Moreover, in the inoperative position there is much less vibration of the elevator mechanism when the wagon is moved because of the reduction in length of the mechanism from its point of support. Thus, by shifting the elevator to the inoperative position before the wagon is moved the strain upon the parts and the joints, both within the elevator and between the elevator and the wagon, is reduced with consequent lessening in the likelihood of deformation of parts or loosening of joints.

What is claimed is:

1. In a load discharging elevator for grain wagons and the like, a pair of tubular sections formed open at their opposite ends and adapted to be coaxially aligned in end-abutting relation; auger conveyors extending within the respective sections; means connecting the conveyors for joint rotation in the aligned, end-abutting position of the sections; a pair of parallel links on each section, the links of each pair being rigid at one end with and extending laterally outwardly from the section on which they are mounted adjacent said one end of the section; a pin con-

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necting the respective pairs of links at the other ends of the links to hingedly mount one section upon the other for swinging movement about an axis offset laterally from and extending transversely of the sections, said pairs converging in said position of the sections at an acute angle to each other in a direction away from the sections, to form a V-shaped brace straddling the abutting ends of the sections and reinforcing the sections against deviation from their coaxial relationship; and means releasably interengaging the sections against relative swinging movement in said coaxially aligned positions thereof.

2. In a load discharging elevator for grain wagons and the like, a pair of tubular sections formed open at their opposite ends and adapted to be coaxially aligned in end-abutting relation; auger conveyors extending within the respective sections; means connecting the conveyors for joint rotation in the aligned, end-abutting position of the sections; a pair of parallel links on each section, the links of each pair being rigid at one end with and extending laterally outwardly from the section on which they are mounted adjacent said one end of the section; a pin connecting the respective pairs of links at the other ends of the links to hingedly mount one section upon the other for swinging movement about an axis offset laterally from and extending transversely of the sections, said pairs

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converging in said position of the sections at an acute angle to each other in a direction away from the sections, to form a V-shaped brace straddling the abutting ends of the sections and reinforcing the sections against deviation from their coaxial relationship; and means releasably interengaging the sections against relative swinging movement in said coaxially aligned positions thereof, comprising an eye bolt pivotally connected to one section adjacent said one end of the section, and a slotted lug on the other section adapted to receive the eye bolt in the coaxially aligned position of the sections, said eye bolt in said position of the sections extending in parallelism with and being offset laterally from the sections at a location diametrically opposite the pairs of links, to provide brace means cooperating with the links in holding the sections against relative deviation from their coaxially aligned relationship.

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