

July 9, 1968

J. E. HANCOCK ETAL

3,391,776

COMBINATION ELEVATING SCRAPER AND LOADER

Filed Nov. 14, 1966

4 Sheets-Sheet 1

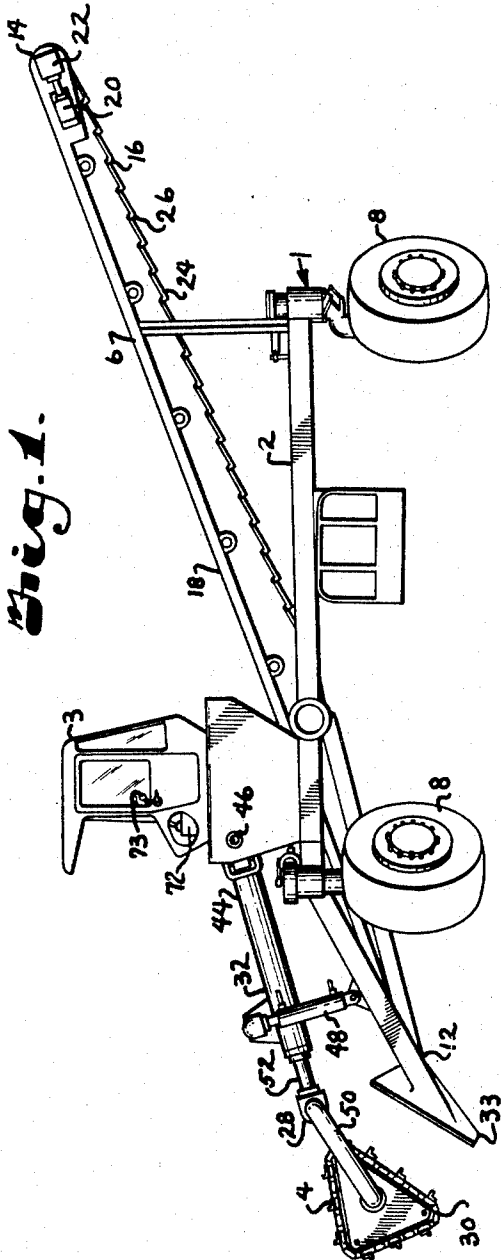
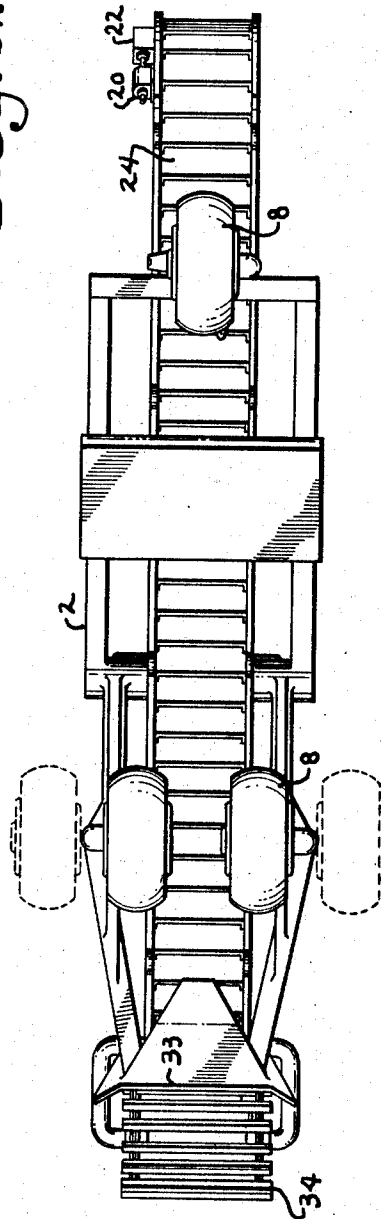


Fig. 2.



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Fig. 3.

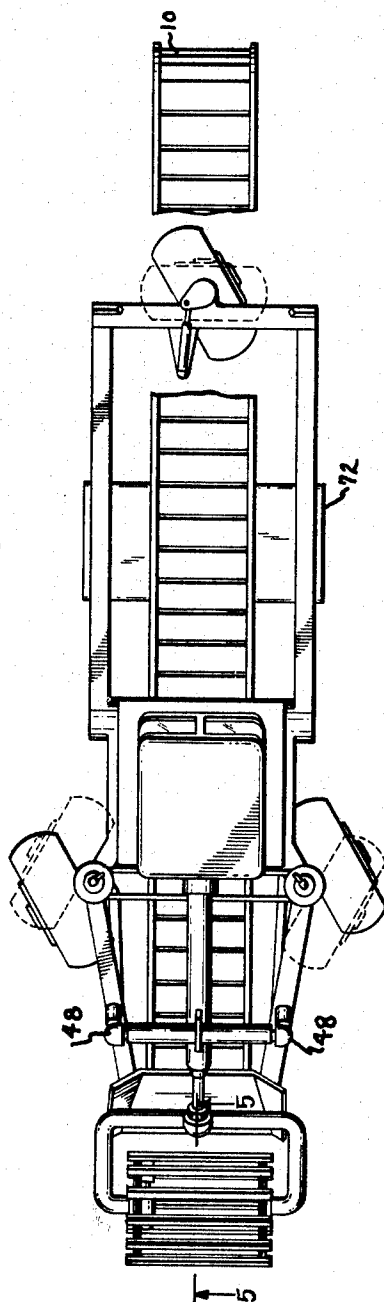


Fig. 5.

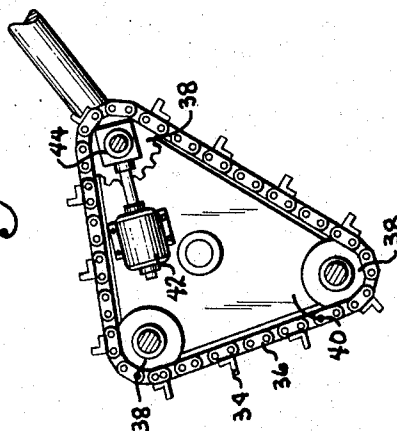
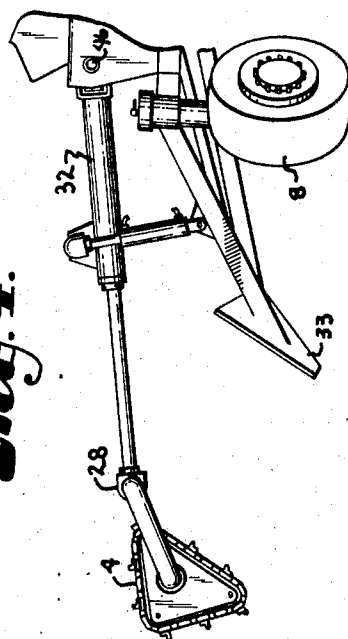


Fig. 4.



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Fig. 8.

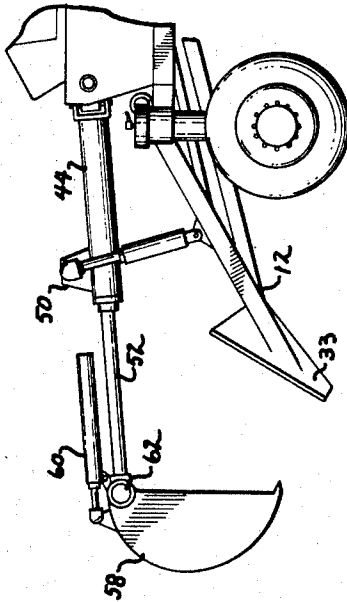


Fig. 7.

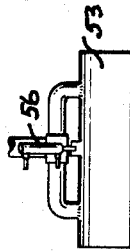


Fig. 6.

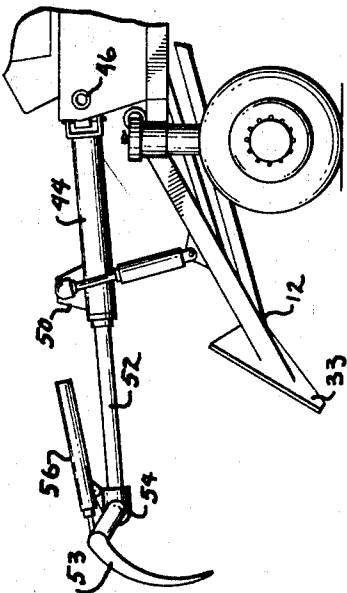


Fig. 10.

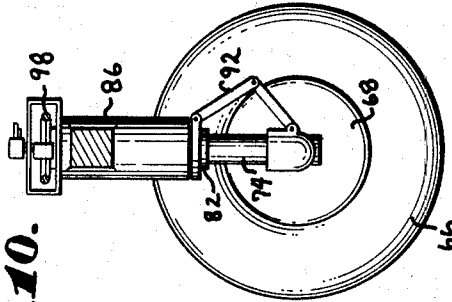
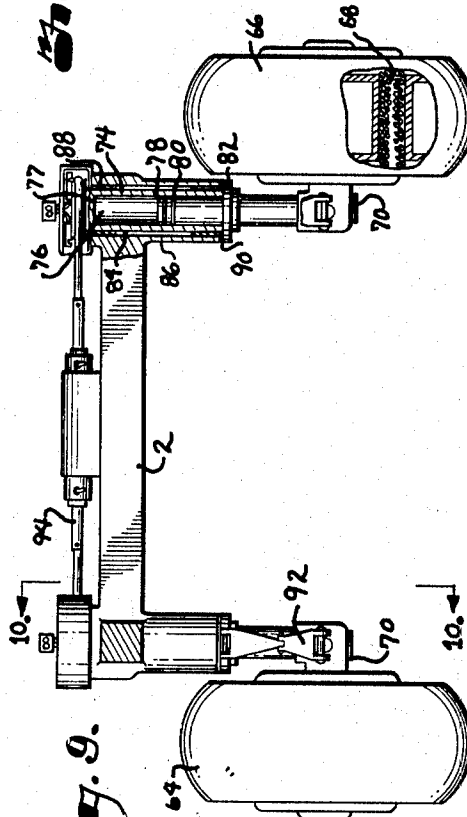


Fig. 9.



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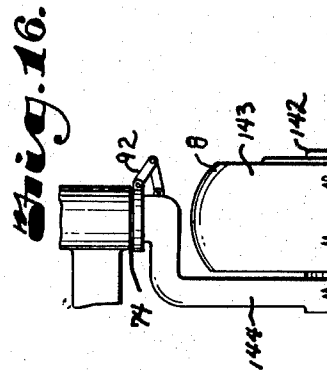
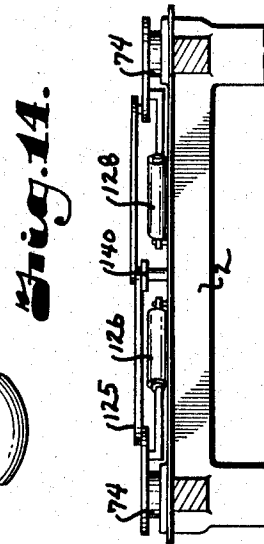
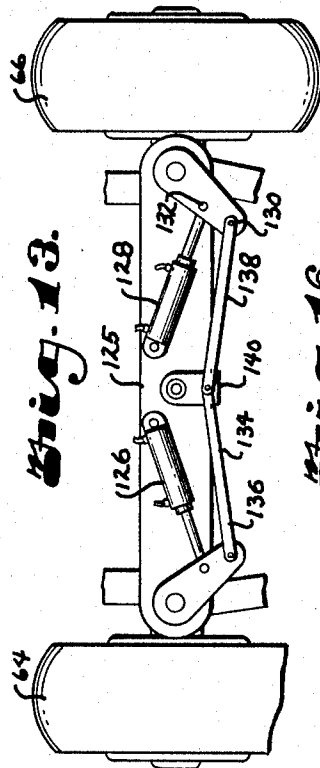
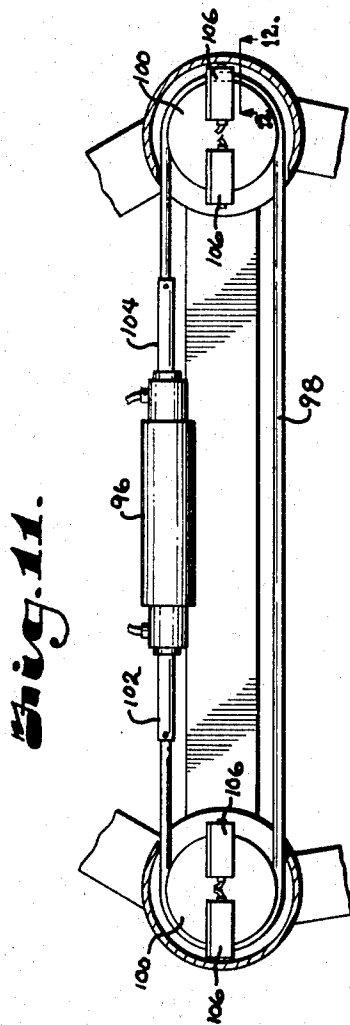
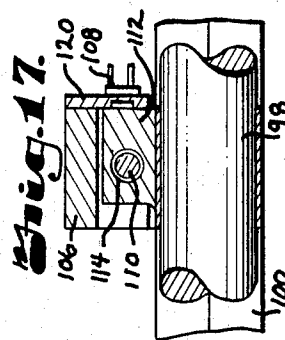
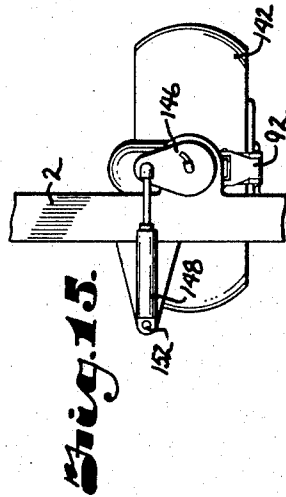
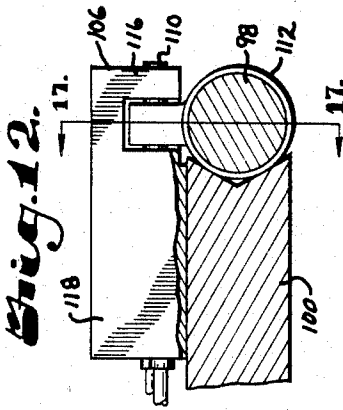
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COMBINATION ELEVATING SCRAPER AND LOADER

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Filed Nov. 14, 1966, Ser. No. 593,989
4 Claims. (Cl. 198—8)

ABSTRACT OF THE DISCLOSURE

Dirt or other material is picked up by a vehicle including a frame and supporting wheels and a conveyor extending forwardly of the frame into which the material is deposited and transferred by the conveyor rearwardly of the frame for disposition. It includes first and second spaced apart wheel structures at the front of the frame which may be changed from a wide position to a lesser position for traveling of the vehicle on roadways.

This invention relates to a materials handling vehicle and more particularly to a new and improved loader for the movement of materials such as gravel, dirt, or the like from one position to another such as transferring said materials from a stock pile to the bed of the hauling vehicle.

The principal objects of this invention are: to provide a new and improved materials loading vehicle, having a conveyor means for use in cooperative association with a material feeding means to effectively transfer material such as dirt, gravel, or the like from a supply area by employment of said feeding means such as a scraper blade, bucket or the like to move said material onto said conveyor means and the disposition of said conveyor means whereby said material may be transferred to a hauling vehicle of the like; to provide such a vehicle having a frame operatively supported by a plurality of steerable wheel means to provide a highly maneuverable loader vehicle whereby said loader vehicle may operate in cooperative relation with a hauling vehicle with relative ease and speed of operation; to provide such a vehicle having steering capabilities whereby said loader vehicle may be maneuvered about a supply area such as a borrow pit and easily trailed by a hauling vehicle so that said hauling vehicle may maintain its receiving position relative to the discharge end of the conveyor means; to provide such a vehicle having means for raising and lowering the frame relative to the wheel means in order to vary the angular orientation of the conveyor means and its elevation and to vary the elevation of a scraper blade mounted on said frame for moving material onto said conveyor; to provide such a vehicle having individually driven wheel means as by electrically operated motorized wheels to allow for individual operation of each of the wheel means to effect increased maneuverability of the loading vehicle; to provide such a vehicle having a pair of spaced forward wheel means and a single, centrally located, rearwardly spaced third wheel means, each of said wheel means being individually steerable and driven to provide a highly maneuverable loading vehicle; to provide such a vehicle wherein said forward pair of wheel means has a first, wide, transverse spaced relation to provide stability for the loading vehicle when employed about a supply area or other project site, with means operatively connected thereto for decreasing the transverse spacing between said wheel means for providing a loading vehicle of an acceptable transverse width for use on conventional roadways for movement of said vehicle between project sites, and the like; to provide such a vehicle wherein all the wheel means may be steered in an oblique direction such that

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the vehicle may be moved obliquely to the conveyor means, whereby the hauling vehicle can easily follow said conveyor means with the bed of the hauling vehicle positioned beneath the discharge end of said conveyor means; to provide such a vehicle which may be simply and inexpensively manufactured and operated to greatly facilitate loading operations and thereby effectively decrease operation costs on construction projects and the like.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings, wherein are set forth by way of illustration and example, certain embodiments of this invention.

FIG. 1 is a side elevational view of a loader vehicle embodying the features of this invention, showing each of the wheels of said vehicle disposed in the manner oblique to the disposition of the conveyor means and having a scraper blade and a loading elevator operatively mounted on a hydraulic boom assembly to provide means for feeding material to the conveyor means.

FIG. 2 is a bottom plan view of the loading vehicle illustrated in FIG. 1, showing the wheels of the vehicle in a straight-forward position parallel to the axis of the conveyor means with a pair of forward transversely spaced wheels mounted in their inward, over-the-road, spaced relation and dashed lines indicating the wheel means in their outwardly spaced relation which is employed for increased stability.

FIG. 3 is an upper plan view of the loading vehicle illustrated in FIG. 1, having a portion of the conveyor broken away to show the rearward third wheel means and its steering mechanism, with said wheel means shown at 90 degrees to the axis of the conveyor means in dashed lines to illustrate the fully turnable nature of the third wheel means through a 180 degree arc.

FIG. 4 is a fragmentary side elevational view of the loader vehicle showing the boom mounted loading elevator in an outwardly extended, elevated position to indicate the ability of the loading elevator to be maneuvered outwardly from the conveyor means to pull material from a forward, spaced position onto the conveyor means.

FIG. 5 is a vertical sectional view taken on line 5—5 of FIG. 3, illustrating the construction of the loading elevator.

FIG. 6 is a fragmentary, side elevational view of a modified form of the loading vehicle illustrating the attachment of a hydraulically actuated loader blade on the forward hydraulic boom of the loader vehicle for use as a feeding means for drawing material onto the conveyor means.

FIG. 7 is a fragmentary, front elevational view of the blade assembly illustrated in FIG. 6.

FIG. 8 is a fragmentary side elevational view of a modified form of the loading vehicle employing a hydraulically actuated bucket assembly on the hydraulic boom as a feeding means for moving material onto the conveyor means.

FIG. 9 is a partial, vertical transverse sectional view through the frame of the loader vehicle, having a portion of the frame broken away to illustrate the strut type wheel mountings employed on each of the wheel means of the loader vehicle and also showing a cable steering mechanism for use in controlling the directional orientation of the forward pair of transversely spaced wheel means.

FIG. 10 is a vertical, longitudinal sectional view taken on line 10—10 of FIG. 9 illustrating the strut type wheel mounting and the cable steering system.

FIG. 11 is a plan view of the cable steering system showing a double hydraulic cylinder operatively connected to a cable which engages a steering sleeve of the strut

type wheel mountings for axial rotation to effect a turning movement of the wheel means.

FIG. 12 is a vertical sectional view taken on line 12—12 of FIG. 11, illustrating a means for releasable engagement of the cable type steering system with the steering sleeve.

FIG. 13 is a plan view of a modified form of a steering system employing a pair of hydraulic cylinders for cooperative action in turning the forward spaced wheel means.

FIG. 14 is a transverse, vertical sectional view through the frame of the loader vehicle showing the modified steering system of FIG. 13.

FIG. 15 is a fragmentary, plan view of the loader vehicle showing the steering mechanism for the third wheel means.

FIG. 16 is a fragmentary, elevational view of the third wheel means illustrating its strut type mounting.

FIG. 17 is a fragmentary, vertical sectional view taken on line 17—17 of FIG. 12, illustrating the means for releasable engagement of the cable of the cable steering system with the steering sleeve.

Referring to the drawings in more detail.

The reference numeral 1 generally designates a materials loading vehicle broadly comprised of a supporting frame 2 having a cabin 3, a material feeding means 4, a conveyor means 6, and a plurality of longitudinally and transversely spaced wheel means 8. This invention contemplates that each of the wheel means 8 be steerably controllable to provide in combination with the feeding means 4 and the conveyor means 6, a new and novel, highly maneuverable loading apparatus, particularly suitable for use in loading earth fill, gravel and the like from stock areas into hauling vehicles. The hauling vehicles being able to easily maintain their material receiving portion in cooperative association with the discharge end of the conveyor means 6.

The conveyor means 6 is comprised of the conveyor belt assembly 10, having an input portion 12, and an output portion 14. The conveyor belt assembly, as illustrated, is comprised of a conveyor belt 16, operatively mounted on a conveyor frame 18, and suitably driven by means of a prime mover 20, illustrated as an electrical motor and operatable through a gear box 22, to drive the conveyor belt 16 around the conveyor frame 18. The conveyor frame 18 is suitably mounted to the supporting frame 2 of vehicle 1, in an inclined manner such that the input end portion 12 of the conveyor assembly 10 is in a lower position with the output end portion 14 elevated whereby material moved by the conveyor belt 16 may be discharged from an elevated position into the hauling bed of a trailing vehicle. The conveyor belt 16, as illustrated, is comprised of a plurality of hingedly interconnected transverse, decking members 24, made of a high abrasive steel and swingably interconnected by transverse pivot pins 26.

The feeding means 4 is comprised of a material moving assembly 28, including a scraper type elevator mechanism 30, operatively mounted on a hydraulic boom assembly 32, and a scraper blade 33 for movement of material from a stock area or pile onto the input end portion 12 of the conveyor assembly 10. The elevator mechanism 30 is comprised of a plurality of transversely extending material moving slats 34, operatively connected to a pair of spaced driving chains 36, suitably received around a plurality of spaced sprocket wheels 38, which are in turn rotatably mounted to a frame structure 40. Referring to FIG. 5 the chains 36 are suitably driven by means of an electric motor 42, operatively connected through a gear box 44, to a pair of opposed sprocket wheels 38, for rotating the chains 36 about the frame 40, to thereby drive the slats 34 in such a manner as to move material in a counterclockwise manner about the elevator mechanism 30 to draw material onto the input end portion 12 of the conveyor assembly 10. The

scraper blade 33 may be employed above or with the elevator mechanism 30 to move material onto the conveyor means 6. The blade 33 is positioned on the frame 2 forwardly of the conveyor belt 16 and directly adjacent thereto, such that movement of the vehicle 1 causes material engaged by blade 33 to move over said blade 33 and onto the belt 16.

The boom assembly 30 is comprised of a first or outwardly extendable hydraulic cylinder 44, swingably mounted to the supporting frame 2, by a pivot pin 46, and swingable about said pivot pin 46, by the action of a pair of opposed spaced hydraulic cylinders 48, which may be controlled for raising or lowering cylinder 44 and thereby the elevator mechanism 30. In this manner, the elevator mechanism 30, which is suitably secured by means of a frame 50 to the driving piston 52 of the hydraulic cylinder 44, may be extended inwardly and outwardly from the input end portion 12 of the conveyor assembly 10 and may be raised and lowered for suitable adjustment of the elevator mechanism 30 over obstructions to efficiently engage and move materials onto the conveyor assembly 10.

Referring to FIG. 6 and FIG. 7, a modified form of the vehicle 1 is illustrated showing a curved blade 53, operatively connected to the driving piston 52 of the cylinder 44, for moving material onto the input end portion 12 of the conveyor assembly 10. The blade 53 is pivotally mounted at 54 to the piston 52 having a hydraulic cylinder 56 operable for swinging the blade 53 to a desired relative position about the pivot point 54, such that the movement of material inwardly toward the input end portion 12 may be accurately controlled.

In FIG. 8 a second modification is illustrated wherein the blade 53 has been replaced by a bucket assembly 58, similar to a clam shell type bucket or a backhoe bucket, operated in a similar manner of that shown relative to the blade 53 having a hydraulic cylinder 60 operable so swing the bucket assembly 58 about a pivotal connection 62 with the driving piston 52 of the cylinder 44. In this manner material may be scooped from stock piles and the like and drawn inwardly by extracting the driving piston 52 into the cylinder 44 to bring the bucket assembly 58 into position over the input end position 12, and dumping the contents of the bucket 58, through the activation of the cylinder 60, onto the conveyor assembly 10.

The wheel means 8, as illustrated, includes a pair of forward, transversely spaced, strut mounted, wheel assemblies 64 and 66, each having a motorized wheel mechanism 68, operatively connected in a conventional manner to a vertical strut or piston 70, with said strut 70 received in a steering sleeve 74 for vertical movement relative to said sleeve 74. The motorized wheel 68 may be of a conventional nature, as for instance, like that employed in the General Electric Differential Input Electric Drive, employing the GE-769 traction motor, each of said traction motors in each of the wheel means 8, being operatively connected to a generator 72, through control means 73, contained in the cab 3 of the vehicle 1. In this manner, each of the wheel means 8 contains its own drive system and may be operated independently of each of the other wheel means 8, to provide a highly versatile, maneuverable vehicle.

The steering sleeve 74 defines an interior hydraulic chamber 76 in which is received an end portion 77 of the vertical strut 70 and into which hydraulic fluid is pumped for providing vertical or axial relative movement between the sleeve 74 and the strut 70 in order to vary the elevation of the frame 2 relative to the ground and the wheel means 8 such that the elevation of the conveyor means 6 may be varied and its angular disposition changed. This action also serves to vary the position of the blade 33 relative to the material being loaded. The strut 70 has a piston head portion 78 within the chamber 76 having a pair of O-ring seals 80 to maintain the pressure integrity of the hydraulic chamber 76. A suitable dust cover or

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seal 82 is disposed over the lower end of the sleeve 74 with the strut 70 extending through said dust seal 82.

The steering sleeve 74 is rotatably received in a bore 84, in a wheel mounting portion 86 of the frame 2 with said sleeve 74 mounted for relative axial rotation relative to the frame 2 on a vertical bushing 88 and a horizontal bushing 90, which are disposed between the frame 2 and the sleeve 74 in bore 84. The rotation of the steering sleeve 74 is imparted to the strut 70 and the motorized wheel 68 through a scissors type linkage 92 which permits relative axial movement between the strut 70 and the steering sleeve 74 in a vertical manner, through its scissors type action and serves to impart an axial rotation of the steering sleeve 74 to the strut 70 and the motorized wheel 68 to effect a turning of said wheel 68.

The wheel assembly 66 is controlled, in the illustrated embodiment, by means of a steering system illustrated as a cable steering assembly 94 and including a double-end steering cylinder 96 operatively connected to a cable 98 which is in turn secured in a suitable manner to the steering sleeve 74 of each of the opposed spaced wheel means 8 to provide a coordinated movement or steering action between the spaced forward wheel assemblies 64 and 66. The double-ended steering cylinder 96 is suitably connected to a conventional power steering system for the provision of hydraulic fluid in a controlled manner to the cylinder 96. Each of the steering sleeves of the opposed wheel assemblies 64 and 66 has a pulley 100 suitably mounted by welding or the like to the upper end portion of the sleeve 74 with said cable 98 being releasably connected to the pulleys 100 to turn the pulleys 100 in a coordinated manner in response to activation of the driving pistons 102 and 104 of the double-end steering cylinder 96. In this manner, the steering sleeve 74 may be caused to rotate within the bore 84 of frame 2 to effect a steering action of each of the wheel assemblies 64 and 66.

The vehicle 1 is operated on project sites with the wheel assemblies 64 and 66 extended outwardly of the frame 2 in a widely spaced manner as illustrated in FIGURE 9 and in dashed lines in FIG. 2. However, when moving the vehicle 1 over conventional roadways, it is necessary to reduce the overall width of the vehicle to approximately 12 feet to comply with highway regulations. In order to accomplish this reduction in transverse width of the vehicle, the wheel assemblies 64 and 66 are rotated through an arc of 180 degrees to an interior position wherein the wheel assemblies 64 and 66 underlie the frame 2 of the vehicle 1 thereby reducing the overall width of the vehicle 1 from approximately 20 feet to 12 feet. This is effected by disengaging the steering assembly 94 and driving each of the individual wheel assemblies 64 and 66 causing said assemblies to rotate on the vertical strut 70 to an interior position where the steering assembly may then be reconnected to permit steering of the wheel assemblies 64 and 66 in their interior position. In order to connect and disconnect the steering assembly 94, releasable connections 106 are provided in opposed relation on each of the pulleys 100 on the respective steering sleeves 74 of the wheel assemblies 64 and 66.

Referring to FIGS. 12 and 17, the individual releasable connections 106 are illustrated as a solenoid mechanism 108 having a pin 110 actuated in a conventional manner by the solenoid 108 to engage and disengage a flange member 112 which is carried by the cable 98. In the illustrated embodiment, the pin 110 passes through an aperture 114 defined in the flange member 112 and through a similar aligned aperture in a flange member 116 extending outwardly and over the cable 98 from the housing 118 of the solenoid mechanism 108. The housing 118 is suitably connected as by welding or the like to the pulley 100, such that the pulley 100 can be fixed in a desired relative position to the cable 98. In order to insure proper alignment between the aperture in the flange 116 and the aperture 114 and the flange 112 on the cable 98 a stop plate 120 is provided on the housing 118 and in-

cludes a microswitch or the like 122, operatively connected to the steering system for stopping the rotation of the wheel assemblies 64 and 66 when the stop plate 120 is engaged. In this manner the flanges 116 and 112 may be properly aligned for the passage of the retaining pin 114, therethrough to provide a releasable engagement between the pulleys 100 and the cable 98. The releasable connecting mechanisms 106 are disposed in opposed relation at opposite sides of the pulley 100 such that the pulley 98 through its flange 112 may be engaged with the wheels in both the internal and external position to permit steering of the wheel assemblies 64 and 66 in either of said positions.

Referring to FIGS. 13 and 14, a modified form of the steering system, as illustrated, is comprised of a mechanical steering assembly 125 employing a pair of cooperating cylinders 126 and 128 operatively connected to the steering sleeves 74 of the respective wheel assemblies 64 and 66 by linkage arm 130 suitably secured to the top of the steering sleeves 74 and swingably connected by a pivot pin 132 to the driving shaft of each of the hydraulic cylinders 126 and 128. The steering movement of the respective arms 130 associated with each of wheel assemblies 64 and 66 is coordinated by means of a cross linkage assembly 134 having a pair of linkage arms 136 and 138 swingably mounted at their opposed end portions to a respective arm 130 and to a center of rotatable pivot member 140 to provide a cooperate action between the respective cylinders 126 and 128. It may readily be seen that when cylinder 126 is drawn inwardly the wheel assemblies 64 will tend to turn in a counter-clockwise manner, therefore, the cylinder 128 forces its driving shaft outwardly rotating the wheel assembly 66 in a similar manner. It should be noted that the driving force exerted on either cylinders 126 or 128 is partially imparted to the opposed wheel assembly 64 or 66, through the cross arm assembly 134 to assist in the turning action. As illustrated in FIG. 14, the various components of the mechanical steering system 125 are disposed at various elevations to allow their free turning movement without interference with the other components of the assembly.

When rotating the forward wheel assemblies 64 and 66 from the exterior position to the interior position, it is necessary to disconnect the cross linkage assembly 134 and employ a new cross linkage assembly having longer arms 136 and 138 when the assemblies 64 and 66 are in their interior position. This substitution of linkage assemblies is necessary as a 180 degree rotation of the arms 130 places them in an outwardly extending position.

The third or rear wheel means 8 is comprised of a wheel assembly 142 substantially identical to the wheel assemblies 64 and 66 with the exception that a curved strut 144 is employed, whereby the steering sleeve 74 of the wheel assembly 142 is disposed above the center line of the wheel 143 to facilitate the turning of the rearward wheel 143 through an arc of at least 180 degrees. A scissors type linkage 92 is employed for connecting the strut 144 to the steering sleeve 74 so that rotation of the steering sleeve 74 will be imparted to the strut 144 effecting a turning action of the wheel assembly 142. As in the case of the wheel assemblies 64 and 66 the wheel assembly 142 is fully motorized with the electric motor mounted in the hub of the wheel assembly 142.

Referring to FIG. 15, the steering mechanism is illustrated for the rearward wheel assembly 142 and includes an arm or linkage 146 suitably secured to the steering sleeve 74 and pivotally connected to an activating cylinder 148 employed for rotating the arm 146. The cylinder 148, as illustrated, is swingably mounted at a pivot pin 152 to the frame 2 of the vehicle 1 to permit the cylinder 148 to follow the rotation of the arm 146. The cylinder 148 is suitably connected in the overall steering system of the vehicle 1 in a conventional manner to suitable controls housed in the cab 3 of the vehicle 1.

In operation the vehicle 1 is driven to a stock area,

stock pile and positioned with the feeding means 4, in engagement with the material to be loaded. A hauling type vehicle such as a truck or the like is then positioned with its receiving bed directly below the discharge end 14, of the conveyor assembly 10, whereby the material moved over the conveyor belt 16 may fall into the receiving bed of the hauling vehicle. When loading from a stock pile the front wheel assembly 64 and 66 may be maintained in a straight forward position and the rearward wheel assembly 142, steered from left to right such that the tail portion or discharge end 14 of the conveyor swings in an arc about the stock pile with a similar movement of the input end 12 relative to the stock pile, thereby permitting the hauling vehicle to move with the movement of the discharge end portion 14 of the conveyor assembly 10, allowing the hauling vehicle to maintain its receiving position beneath said conveyor 10 with relative ease.

When employing the loader vehicle 1 in relation to barrow pits and the like, each of the wheel means 8 may be turned in an oblique manner to the line of thrust to the conveyor 10 as illustrated in FIG. 1, allowing the vehicle 1 to move in an oblique manner with the trailing vehicle moving in a similar manner with its receiving bed positioned and maintained below the discharge end position 14 of the conveyor assembly 10. It is readily apparent that the structure and maneuverability of the vehicle 1 allows the hauling vehicle to maintain its bed beneath discharge end 14 of the conveyor 10 with relative ease without the necessity of constant maneuvering of the hauling vehicle relative to the loader vehicle 1.

The feeding means 4 may be employed in various manners, its primary purpose being to draw material from barrow pits, stock pile, or the like onto the input end portion 12 of the conveyor assembly 10. When employing the elevator assembly 30 as a feeding means the blade 33 mounted on the forward portion of the loader vehicle 1 is employed in a scraper type action with the elevator assembly 30 being operated in a conventional manner for moving material over the blade 33 and onto the input end portion 12 of the conveyor 10. A bucket assembly 58 shown in FIG. 5 may be employed either with or without the cooperative action of the blade 33, as for instance, in some stock piles it might be desirable to scoop up a quantity of material, carry it back to the input end portion 12 of the conveyor assembly 10 and simply deposit the material thereon without any action by the blade 33. In other instances it may be desirable to scoop the material to a position directly in front of the vehicle 1 allowing the blade 33 to move said material onto the input end portion 12 of the conveyor 10. Like the bucket assembly 58, the blade assembly 52 may also be used either with or without the cooperative action of the blade 33 to move material to the input end portion 12 of the conveyor 10.

When the vehicle 1 is employed on the job site for the loading of various forms of material, the forward wheel assemblies 64 and 66 will be maintained in an external or outer position, the wide transverse spacing providing stability for the vehicle 1 as areas of this nature are normally irregular and a wide wheel base is therefore desirable. In such areas the wheel base will have a width of approximately 20 feet. However, when the vehicle 1 is to be moved between construction or job sites, it is desirable to reduce the overall width of the vehicle 1 to the legal limit of 12 feet to permit the driving of vehicle 1 over the highways and the like. In order to accomplish this desired result the forward wheel assemblies 64 and 66 may be rotated to an internal position with a reduced wheel base or transverse spacing and either steered or maintained in a forward position with the steering accomplished with the rearward trailing wheel means. If the mechanical steering system 125 is employed it will be necessary to disengage the cross brace 134, rotate the center arm 140, and reconnect the new cross brace assembly 134 employing longer linkage arms 138 and 136.

Due to the irregularity of the areas in which loader vehicles of this nature are utilized it is desirable to have the conveyor assembly 10 mounted in such a manner that the elevation of said conveyor 10 may be varied and its angular disposition changed to facilitate the particular project or loading operation in which the loader vehicle 1 is being utilized. The ability to raise and lower the frame to the vehicle 1 also permits raising and lowering of the blade 33, such that the bite of the blade 5 may be varied depending upon the particular situation. By simple activation of the hydraulic system, the struts 70 may be raised and lowered relative to the steering sleeves 74 with the elevation of the frame 2 relative to the front wheel assemblies 64 and 66 being independent of the elevation of the frame 2 relative to the rear wheel assembly 142, such that the angle of the conveyor may be controlled by the independent elevation of the frame, either the forward or rearward portion thereof.

It is to be understood that while we have illustrated and described one form of our invention it is not to be limited to the specific form or arrangement of parts herein described and shown except insofar as such limitations are included in the claims.

What we claim and desire to secure by Letters Patent is:

1. A vehicle for the movement of material comprising:
 - (a) a supporting frame,
 - (b) material feeding means operatively connected to said supporting frame,
 - (c) conveyor means disposed longitudinally of and operatively mounted on said frame for moving material longitudinally thereof, said conveyor means having an input end portion adjacent said feeding means to receive material therefrom, and an output end portion elevated above said input end portion to discharge material therefrom into a vehicular hauling bed or the like,
 - (d) said feeding means being comprised of a means for material moving means having mounting means associated with said vehicle for raising and lowering said moving means and for extending said moving means inwardly and outwardly of said input end portion of said conveyor means,
 - (e) first and second and third wheel means carried by said frame, said first and second wheel means being located forwardly of said frame and transversely spaced apart, said third wheel means being longitudinally and rearwardly spaced from said first and second wheel means to support said frame,
 - (f) first steering means operatively connected to said first and second wheel means for steering same in unison and a second steering means operatively connected to said third wheel means to independently steer same,
 - (g) means cooperating between said wheel means and said frame for varying the elevation of said frame relative to said wheel means,
 - (h) said first and second wheel means each including a rotatable strut normally engaged with said first steering means and having a wheel operatively connected thereto, the wheel on each strut being laterally offset from said strut, drive means for selectively driving said wheels, release means for selectively releasing said struts from said first steering means to permit said wheels to be driven on said struts between outer positions and inner positions and re-engaging said struts with said first steering means, and
 - (i) power means associated with said vehicle providing power for said wheel drive means.
2. A vehicle as recited in claim 1 wherein said power means is comprised of a means operatively mounted in each of said wheel means for independently driving said wheel means.

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3. A vehicle as set forth in claim 2 wherein said means operably mounted in each of said wheel means includes an electrically driven traction motor.

4. A vehicle as set forth in claim 1 wherein said means for varying the elevation of said frame includes a sleeve member rotatably mounted to said frame and slidably receiving a strut upwardly thereinto, cooperative means on said strut and said sleeve member to prevent relative axial rotation therebetween, but permit relative vertical movement therebetween, said sleeve and strut forming a hydraulic fluid receiving chamber.

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