May 11, 1926. 1,584,565

K. LANGER

CONVEYING SYSTEM

Filed June 22, 1925 3 Sheets-Sheet 1

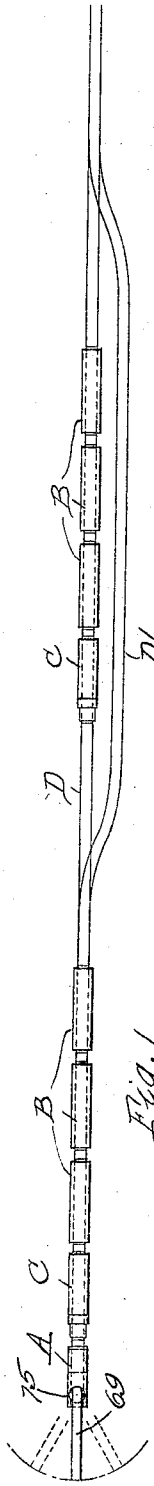


Fig. 1.

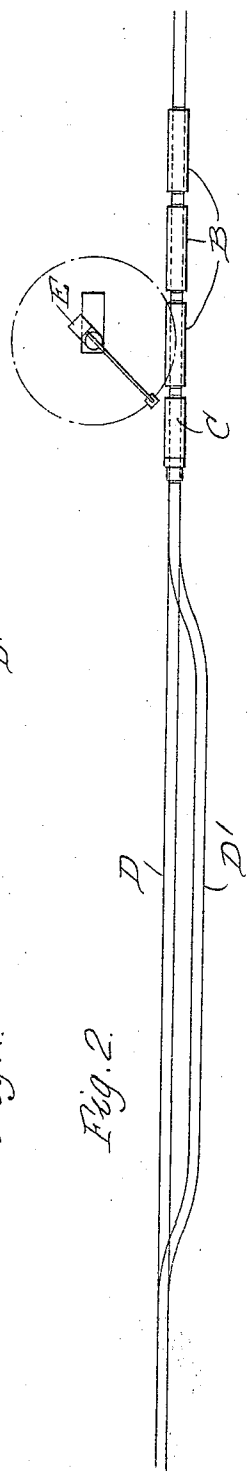


Fig. 2.

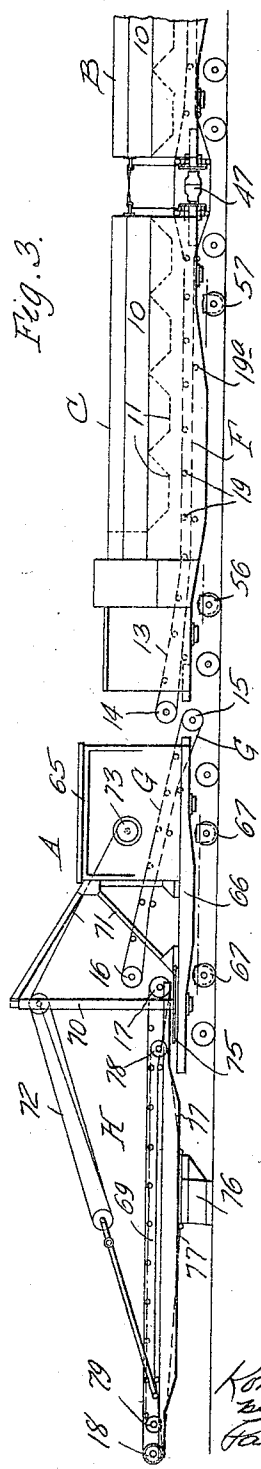


Fig. 3.

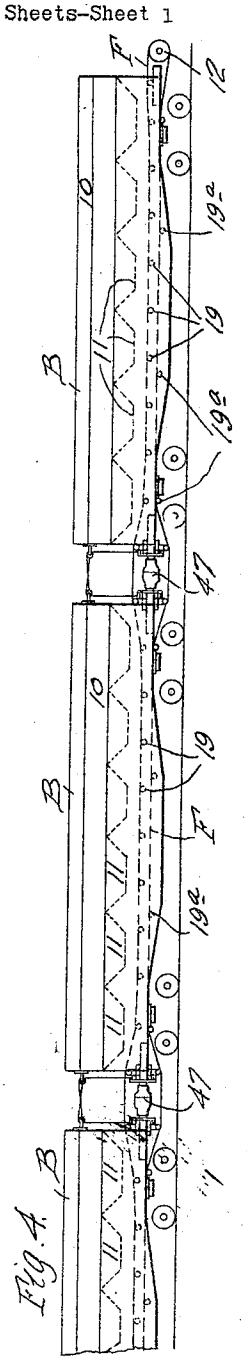


Fig. 4.

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CONVEYING SYSTEM

Filed June 22, 1925 3 Sheets-Sheet 2

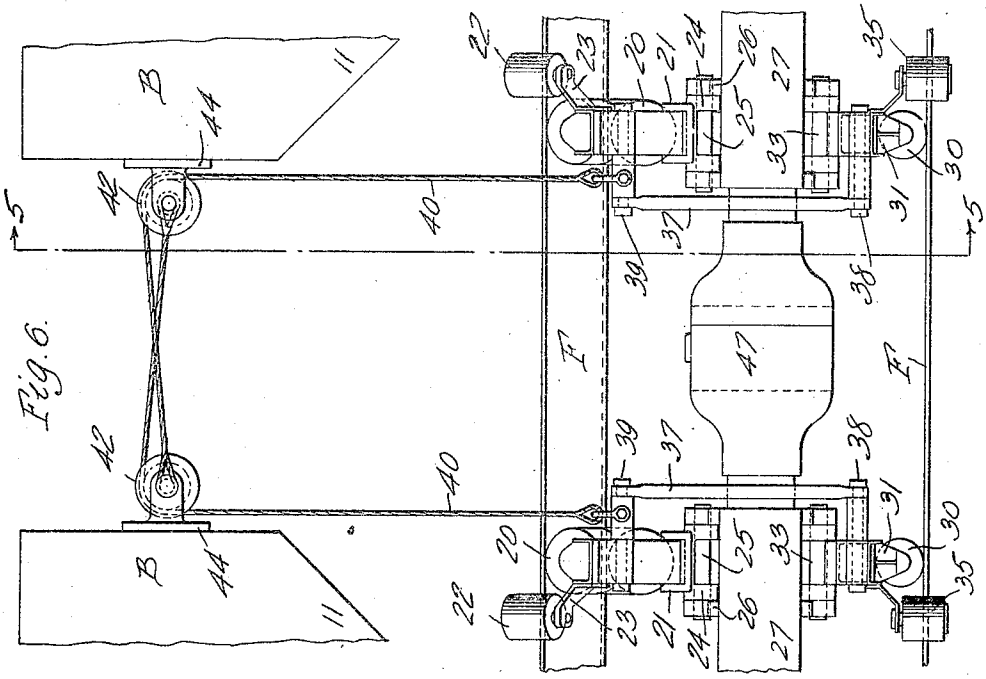


Fig. 6.

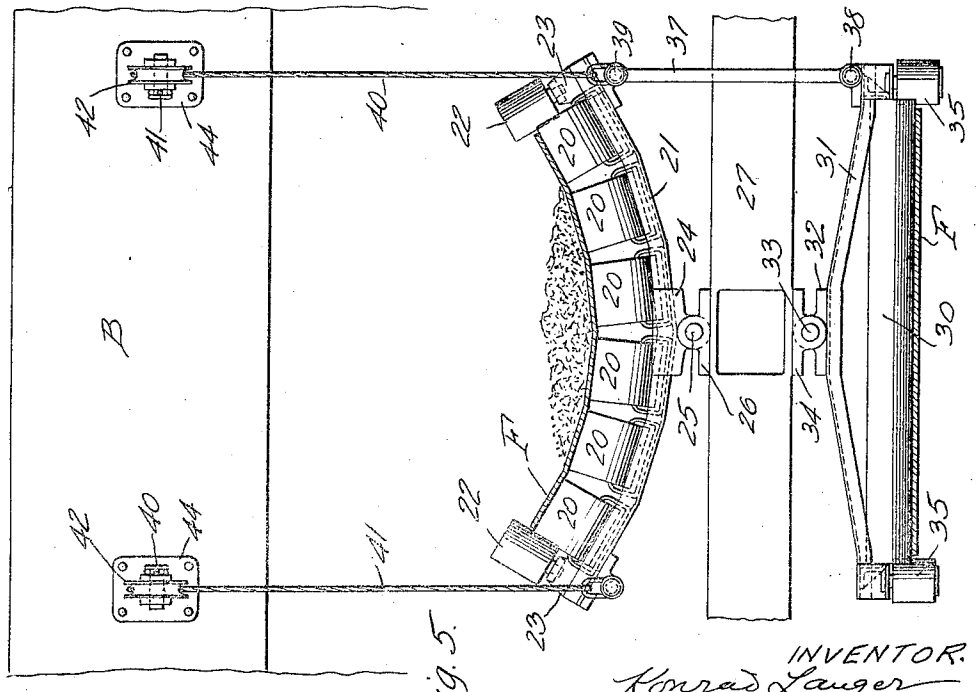


Fig. 5.

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CONVEYING SYSTEM

Filed June 22, 1925 3 Sheets-Sheet 3

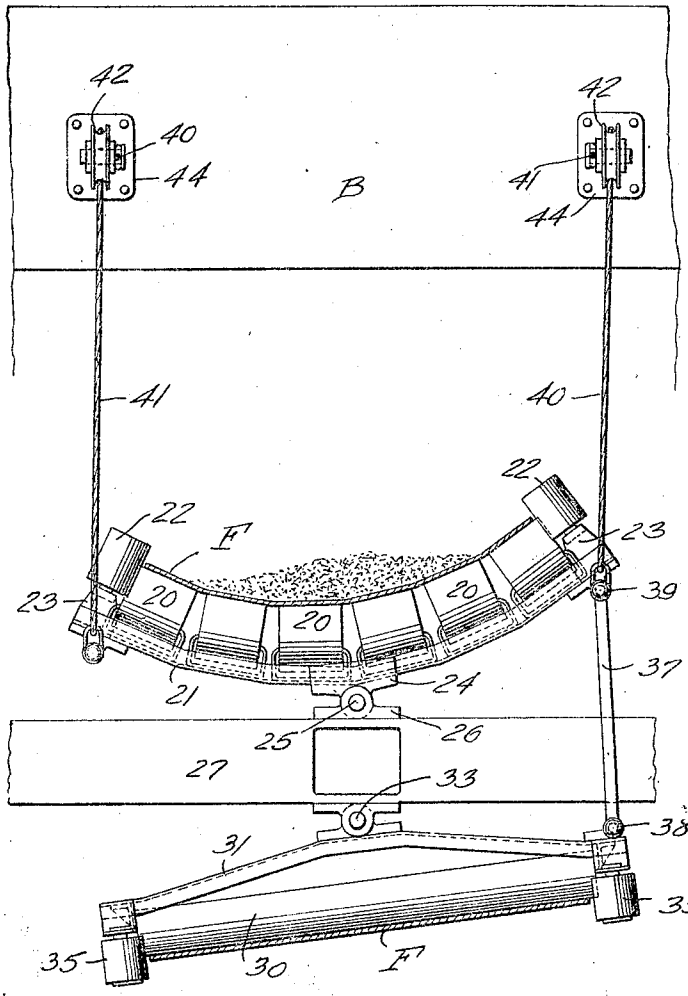


Fig. 7.

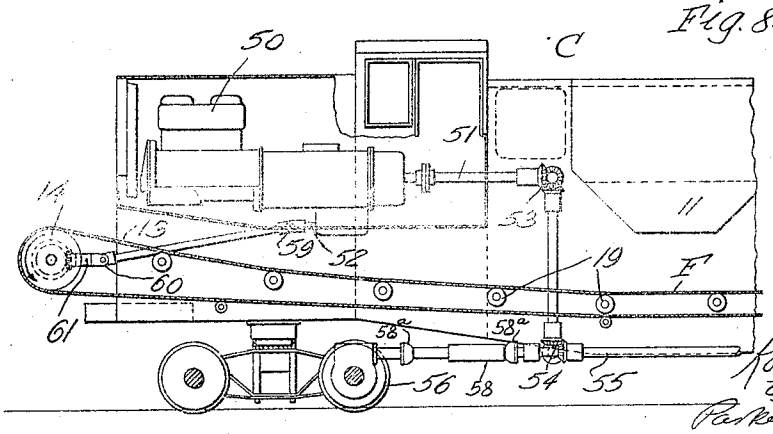


Fig. 8.

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Patented May 11, 1926. 1,584,565

UNITED STATES PATENT OFFICE.

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CONVEYING SYSTEM.

Application filed June 22, 1925. Serial No. 38,705.

This invention relates to conveying systems of the kind used for conveying bulk materials, and more particularly to systems of this kind for use in constructing roadbeds, building embankments, dams or levees, or for dumping a quantity of material in a desired location.

The objects of this invention are to provide a system of this kind which facilitates the handling of the material to remove the same from cars, such as railway cars or the like, and delivering the material to the desired location; also to provide cars of this kind of improved construction which make it possible to deliver the contents of the cars into a location at a distance from the cars with the minimum amount of manual labor; also to provide a system of this kind in which a number of railway cars may be provided with a common conveyor which is so arranged that the couplers, draft gears and other parts of the cars can be arranged in their standard locations, so that these cars can be coupled with locomotives and other cars now in common use; also to provide a train or group of cars with means for guiding the conveyor in the space between adjacent cars in such a manner that the conveyor will not be damaged when the train is passing around curves, and can be successfully used to discharge the material from the train while the same is standing on a curve; also to provide a group or train of cars of this kind in which one of the cars is provided with an engine or other source of power which may supply motive power to the train or group for moving the same from place to place, and which may be used to actuate a conveyor for unloading the train or group; also to provide means of improved construction for delivering material from the train or group of cars to a derrick dump car or machine which discharges the contents of the train or group into the desired location; also to provide the derrick dump car or machine with means of improved construction for leveling the material after the same has been dumped; also to improve the construction of conveying systems of this kind in other respects hereinafter specified.

In the accompanying drawings,

Figs. 1 and 2 are top plan views of the two end portions of a conveying system embodying my invention.

Fig. 3 is a side elevation, partly diagrammatic, on an enlarged scale, showing the dump machine and the front end of the conveyor train in operative relation thereto.

Fig. 4 is a similar elevation showing the remainder of the train or group of cars of the conveying system.

Fig. 5 is a fragmentary, transverse sectional view, on an enlarged scale on line 5—5, Fig. 6, of a train or group of cars of a conveyor system, the car coupler being omitted in this view.

Fig. 6 is a side elevation of the connection between adjacent cars of a train.

Fig. 7 is a view similar to Fig. 5 showing the parts in the positions which they occupy while the train or group of cars is on a curve.

Fig. 8 is a fragmentary, vertical sectional elevation of the front end of the driving unit of the train.

The conveying system includes a group of cars or train which is movable from a place where the material is received to a relatively stationary train dump machine A, to which the train or group of cars discharges the material, and which in turn discharges the material into the desired location. The train or group of cars may consist of a plurality of flat, hopper bottom cars B, and a motor car C, which is also adapted to carry a certain amount of material. A number of these trains may be employed, and the trains may operate on a track D, which may be provided with a number of sidings D'. E represents diagrammatically a steam shovel or other device for loading the material on the cars. It will be understood that if the system is used for laying railroad road beds or the like, the track D may be extended as the road bed is laid, so that the dump car or machine A may be advanced from time to time as the road bed is completed, and the additional track is laid thereon.

The cars B of the train may be of any suitable center dump construction, those shown having an elongated body 10 provided at intervals with hoppers 11, the bottoms of which may be opened or closed by any suitable mechanism, not shown. Underneath the bottoms of the hoppers 11 is arranged an endless traveling conveyor or belt F, which extends through the full length of the train, that shown passing at the rear end of the train over a pulley or guide roller or rollers 12, and the conveyor or belt is provided at the front end of the motor car C with an inclined portion 13, and at the

front end of this inclined portion, the belt runs over a roller, drum, or other guide and driving device 14. When the apparatus is in use, the hopper bottoms are preferably opened, one or more at a time, so that the material is gradually discharged on the conveyor belt F, preferably in a manner such as to load the conveyor or belt up to the limit of its capacity, and the belt is driven by means of the motor contained in the motor car C. Another conveyor or belt G is arranged on the dump machine or car A and extends over a pulley or guide device 15 at the rear end of this car and inclines upwardly from this guide device to a guide device 16 at the other end of this belt. Beneath the raised end 16 of the belt G is another conveyor or belt H, the ends of which pass over rollers or guide devices 17 and 18. The belt H is adapted to be moved to different angular positions in a substantially horizontal plane with reference to the track, so that the material may be dumped at the front end of the conveyor or belt H, either to the middle or to either side of the road bed. Means for accomplishing this result will be hereinafter explained.

It will be obvious that by providing a continuous belt extending through the length of a train or group of cars, that the belt may be more easily driven from a single source of power, and also that the material will be delivered with less loss or spill at the front end of the train. The upper or load carrying run of the conveyor or belt is preferably supported at intervals by means of rollers or guide devices 19, and the lower run may, if desired, be also supported by similar rollers 19a.

In order to enable the belt to operate satisfactorily at all times, whether the train is standing on a straight stretch of track or a curve, and also to avoid damage to the belt while the train is passing around curves, such as necessitated by the sidings D', the following means for supporting the belt between adjacent ends of cars of a train may be employed, see particularly Figs. 5 to 7:—

The belt F is supported adjacent to each end of each car of a train by means of a series of rollers 20 mounted on a suitable frame or supporting bar 21, which is preferably curved so as to conform with the trough shape of the belt, and which is provided with any suitable bearings, (not shown) on which the rollers 20 are journalled. 22 represent guide rollers arranged at opposite sides of the belt and journalled on brackets 23 secured on the ends of the frame members 21. The frame members 21 are mounted to rock from side to side, and for this purpose the frame members, in the construction shown, are provided at their middle portions with a bearing member 24 journalled on a subtantially horizontal and longitudinally extending pivot 25, so that the bearing members may swing laterally about the pivot 25, the pivot being supported by means of a pedestal 26 mounted on any suitable part of a car, for example, on the end sill 27. Other means for pivoting the frame member 21 may be employed, if desired.

The lower run of the belt F is guided downwardly at the ends of each car, so as to pass below the car coupler, and bears upwardly against rollers 30, each of which is journalled in the frame member 31, arranged adjacent to the end of a car. The frame member 31 is also arranged to tilt or swing laterally, and for this purpose in the construction shown, the frame member 31 is pivoted to swing about the axis of a pin 33. The lower frame member 31 also has guide rollers 35 at opposite ends thereof which are adapted to engage with the sides of the lower run of the belt F to hold the same in correct relation to the rollers 30.

The frames 21 and 31 are preferably connected so that they may be caused to swing simultaneously and for this purpose in the construction shown, the frames are connected at one side by means of a link 37, the lower end of which is pivoted at 38 on the lower frame 31, and the upper end of which is pivoted at 39 on the upper frame member 21. As a result of this connection between the two frame members, both frame members will be caused to swing simultaneously about their pivots 25 and 33.

If the material on the train or group of cars is being discharged while the train is standing on a curve, it is desirable that the edge of the belt at the outside of the curve should be at a greater elevation than the edge thereof at the inside of the curve, so as to best counteract the inertia of the material, which might cause the material to be thrown off the belt toward the outside of the curve. Also when the train is rounding a curve, there is a tendency to stretch the edge of the belt at the outside of the curve, and to compress or buckle the other edge, and this tendency is also overcome by raising the outer edge and lowering the inner edge of the belt, and means are, therefore, provided for automatically changing the positions of those portions of the belt which extend between adjacent cars. In the construction shown for this purpose a pair of cables 40 and 41 is provided for each frame member 21, the lower ends of these cables being secured to the frame members 21 adjacent to the opposite ends thereof. These cables extend upwardly from their connection with the frame member 21, and pass over pulleys or guides 42, which are suitably secured to the frame or body of the car on which the frame member 21 is mounted. These cables, after passing over the pulleys 42, extend across a space between adja-

cent cars and are secured at their other ends to the body of the next car. A similar pair of cables is provided for the frame member 21 of the next car and pass over similar pulleys secured to the next car, and the cables then extend across the space between adjacent cars, and are secured at their other ends to the first mentioned car. In the particular construction shown, each of the pulleys 42 is arranged on a suitable bracket 44, and these brackets are provided with means for fastening the upper ends of the cables 40 and 41 thereto.

It will be obvious that as two adjacent cars pass around a curve, the ends of the cars will be nearer to each other at the inside of the curve, and farther apart at the outside of the curve. Consequently, as the portions of the ends of the cars which are at the outside of the curve move farther apart, the two pulleys 42 on that side of the car will move farther apart with the result that a larger portion of the cables at that side of the car will be required to extend across the space between pulleys and consequently parts of the vertical portions of the cables will pass over the pulleys 42 and thus raise the portions of the frame members 21 at the outside of the curve. The corresponding moving together of the portions of the ends of the cars adjacent to the inside of the curve will cause the pulleys 42 on that side of the car to move toward each other with the result that parts of the horizontal portions of the cables pass over the pulleys and add to the vertical portions of the cables, thus permitting the portions of the frame member 21 at the outside of the curve to lower. The parts will, therefore, assume the position shown in Fig. 7, in which the outside of the curve is supposed to be at the right hand side of the figure. Consequently, the conveyor or belt is banked so that inertia or centrifugal force will not tend to throw any of the material from the belt.

Furthermore, when a train equipped with mechanism of this kind is passing around a curve, the swinging of the frame members 21 and 31, as indicated, will greatly facilitate the passing of the belt around the curve, and will prevent the stretching of the edge of the belt adjacent to the outside of the curve, since by the swinging of the belt supporting frame members 21 and 31, the outer edge of the belt is moved near to the center of the cars, and the belt is caused to assume the position which it would naturally assume if bent into the corresponding curve. The tilting of the belt supporting frame members 21 and 31 is in proportion to the radius of the curve, since in the case of sharper curves, or curves of smaller radii, adjacent cars swing to a greater extent with reference to each other, so that greater portions of the cables pass over the pulleys and increase the movement of the belt supporting frame members. The arrangement described also has the advantage of making it possible to keep the car couplers 47 in their usual locations, since the two runs of the belt pass above and below the couplers. In conveyor systems of this kind as heretofore made, the couplers had to be positioned on the body portions of the cars, in which positions the strength of the connection of the couplers with the cars was much less than in the positions shown in the drawings.

The motor or driving car C may be equipped with a motor or power plant of any usual or suitable type, that shown being in the form of an internal combustion engine 50, Fig. 8, of any suitable or desired construction, and having a suitable clutch mechanism, not shown, which is adapted to connect either a shaft 51 or a shaft 52 with the engine. The shaft 51 is connected by means of beveled gears 53 and 54 with drive shafts 55 extending lengthwise of the car C at each side thereof, and terminating in suitable worm or gear connections with the driving wheels 56 and 57 of the car, see Figs. 3 and 8, only one of the drive shafts 55 being shown in the drawings. Slip joints 58 and universal joints 58[a] of any suitable construction are employed in the driving connection between the shaft 55 and the driving wheels 56 and 57.

When the shaft 52 is connected with the engine or motor 50, the power of the engine may be employed for operating the conveyor belt F. In the particular construction shown for this purpose, the shaft 52 is connected by a pair of universal joints 59 and 60 and an intermediate shaft to a short shaft 61 having a bevel gear arranged thereon, and adapted to mesh with another bevel gear formed on the front pulley or roller 14, so that by driving the pulley or guide device 14, the belt F is driven throughout the length of the train. Any other driving connections between the motor and the belt and driving wheels of the car C may be used, if desired.

The dump machine A is preferably also mounted on wheels to move along the track D, and is provided with an engine or motor, (not shown) of any suitable kind contained within a cab or house 65, Fig. 3, mounted on the frame 66 of the car or machine A, and the engine or motor may be connected by means of any suitable mechanism, (also not shown) with the pulley or guide device 16 of the conveyor or belt G for driving the same, and also with the pulley or guide device 17 of the conveyor or belt H for driving this dump belt.

The discharge belt H is mounted on a beam or frame member 69, which may be arranged in different angular positions, and

for this purpose the dump machine A is provided with a mast 70 which is braced by a suitable frame work 71, and the changing of the vertical angle of the dump conveyor or belt H is effected by means of a hoisting tackle 72 connecting the mast 70 with the end of the beam or arm 69, the tackle being preferably operated from the engine by means of a windlass 73.

In order to enable the arm 69 and the dump belt or conveyor H connected therewith to be moved to different horizontal positions, the inner end of the beam 69 and the pulley or guide roller 17 are mounted upon a turn table 75, which is rotatable about a vertical pivot and which is mounted near the outer end of the platform 66 of the dump machine A. The turning of the turn table 73 may be effected in any suitable or well known manner, either by means of hand power, or by means of power derived from the engine or motor, the driving mechanism therefor not being shown.

In order to level off the material which has been dumped by the belt or conveyor H, a leveling device 76 is preferably provided, which is mounted to move lengthwise on the lower portion of the beam 69, and which may be of any suitable construction, for example, in the form of a V-shaped plow which may move any material extending above a desired height laterally in opposite directions. The leveling device is adapted to be moved in either direction lengthwise of the beam by means of one or more cables 77, the ends of which are secured to the leveling device 76, and which pass over rollers or pulleys 78 and 79 journalled on the beam or arm 69. The cable 77 is also preferably driven by means of power derived from the engine or motor, the engine or motor being connected to the cable or chain 77 by any suitable mechanism, clutch or gearing, not shown, which is adapted to rotate the roller or pulley 78 in either direction. By means of the leveling device 76, the road laid by the apparatus may be leveled off without the use of hand labor.

In the operation of the device, the material is placed on the hopper cars C and B by means of the steam shovel E or by any other suitable means, and when a car or group of cars is filled, it is moved by its own power into substantially horizontal alinement with the end of the dumping machine A. If two or more trains of cars are used for carrying the material to the dumping machine A, an empty train may be side tracked on the switch D′ to permit the full train to pass into operative relation to the dumping machine A. After a train has been properly located with reference to the dumping machine, the power of the engine 50 in the car C is applied to the operation of the conveyor or belt F extending lengthwise of the entire train, and the bottoms of the various hoppers 11 may then be opened gradually, or a few at a time, so that a substantially uniform stream of material is fed by the belt F to the dumping apparatus. From this belt the material is deposited upon the belt G, which carries the material to the discharge or dumping belt H, and the material is finally discharged or dumped from the front end of the belt. This last belt may be arranged at any desired angle with reference to the vertical or horizontal, so that the material may be dumped wherever it is deemed advisable. When the apparatus is used, for example, for the building of an embankment or dam, the leveling device 76 is used to form a level surface on the top of the embankment and additional track may then be laid on the newly formed portion of the embankment so that the discharge or dumping machine A may be advanced.

It will be understood, however, that the machine need not necessarily be used for building embankments or road beds, but can be used for various other purposes, such, for example, as storing coal or ore, for loading grain, coal, ore and other commodities into vessels or elevators, and the discharge conveyor or belt H may be arranged to feed material into elevators, silos or other containers.

Among the advantages of my improved apparatus are the fact that the supply train or cars C and D are not run up an incline over the dumping machine, which has the great advantage of conserving the amount of power required to operate the apparatus, and also very much simplifying the construction of the discharge or dumping machine so that a high, long, and strong structure sufficient to support a train of cars is not necessary. By arranging the belt F throughout the length of the entire train or group of cars, and in position to receive material from the hoppers of the cars, the discharge of the material from the train is greatly facilitated and eliminates the need for a structure over the discharge machine which must carry the weight of the entire train. The means for supporting the belt between adjacent cars make it possible to operate the conveyor belt when the train is on a curve and prevent injury to the belt when the train rounds a curve. By means of the construction shown, a uniform supply of material may be fed by the belt F by controlling the hopper bottoms, and by the use of a plurality of hoppers, the belt is loaded only with the material actually carried thereby, since the material in the hoppers themselves is not supported by the conveyor, but by the hopper bottoms themselves. By arranging the belt F above and below the car couplers, these couplers can be arranged

at uniform or standard elevation in which the cars may be coupled to any train or locomotive, and standard car construction may consequently be employed. The apparatus is less expensive to produce than others that have heretofore been devised, and also operates more efficiently.

I claim as my invention:—

1. In a conveying system, the combination of a hopper car for transporting material and having a conveyor arranged underneath the hoppers and to which the material may be discharged from the hoppers, said conveyor discharging the material at an end of said car, a source of power in said hopper car adapted to propel said hopper car and also adapted to be connected with said conveyor of said hopper car for actuating the same, and a dumping machine having a conveyor adapted to receive material from the conveyor of said hopper car, a second conveyor on said dumping machine which is adapted to swing into different angular relations to said dumping machine and which receives the material from the other conveyor of said dumping machine, and a source of power in said dumping machine adapted to propel said dumping machine and also adapted to be connected to both conveyors on said dumping machine for actuating the same.

2. A conveying system including a dumping machine having a conveyor adapted to receive material at one end and discharge the same at the other end, a source of motive power in said dumping machine adapted to propel said dumping machine and also adapted to be connected with said conveyor of said dumping machine for actuating the same, a train of two or more cars provided with hoppers to receive the material to be transported and adapted to be moved into and out of operative relation to said dumping machine, a single continuous conveyor extending throughout the length of said train and adapted to receive material from said hopper and discharge the same to the conveyor of said dumping machine, and a source of motive power in said train adapted to propel said train and also adapted to be connected with said conveyor of said train for actuating the same.

3. A conveying system including a transport train of two or more cars adapted to operate on single standard gage tracks and provided with hoppers to receive the material to be transported, a single continuous conveyor extending throughout the length of said train and adapted to receive the material from said hoppers and discharge the same at an end of said train and a dumping machine to which said train discharges the material while arranged substantially in alinement therewith.

4. A conveying system including a train of two or more cars provided with hoppers to receive the material to be transported, a conveyor extending underneath the hoppers of all of the cars of said train to receive material therefrom and discharge the same at an end of said train a dumping machine adapted to receive material discharged from said end of said train, and a source of motive power in said train adapted to propel said train to and from said dumping machine and also adapted to be connected with said conveyor for actuating the same to discharge material to said dumping machine.

5. A conveying system including a train of two or more cars provided with hoppers to receive the material to be transported, a conveyor extending underneath the hoppers of all of the cars of said train to receive material therefrom and discharge the same at an end of said train, a source of motive power at the discharge end of said train adapted to be used for propelling the train and also adapted to be connected with the conveyor near the discharge end thereof for actuating said conveyor and a dumping machine to which said conveyor of said train discharges the material while said train is arranged substantially in alinement with said dumping machine.

6. A conveying system including a transporting car for carrying material and including a hopper for receiving the material and a conveyor arranged underneath the hopper and to which the material may be discharged from the hopper, said conveyor discharging the material at an end of said car, a power device in said car adapted to be used for propelling said car, and means for connecting said power device with said conveyor for actuating the same and a dumping machine adapted to receive the material from said conveyor and having an independent source of power for discharging the material received thereby.

7. A conveying system including a train of two or more cars provided with hoppers to receive the material to be transported, an endless conveyor extending continuously throughout the length of said train to receive the material from said hoppers and discharge the same at an end of said train, the load carrying run of said conveyor being arranged above the couplers between cars of the train and the return run being arranged below said couplers.

8. The combination of a plurality of hopper cars having a belt arranged below the hoppers, means for supporting the belt between adjacent cars, and means actuated by the turning of said cars laterally with reference to each other to cause said supporting means to tilt said belt.

9. The combination of a plurality of hopper cars having a belt arranged below the

hoppers, means for supporting the belt between adjacent cars, and means actuated by the turning of said cars laterally with reference to each other when passing around a curve to cause said supporting means to tilt said belt so that the edge thereof adjacent to the outside of the curve is higher than the other edge.

10. The combination of a plurality of cars coupled together to form a train and having a conveyor belt extending lengthwise of the train and across the space between adjacent cars, means at the ends of the cars for guiding said belt in the space between cars and arranged to change the relative elevations of the edges of the belt when the train is on a curve, and means controlled by the swinging of the ends of adjacent cars relatively to each other to actuate said belt supporting means.

11. The combination of a plurality of cars coupled together to form a train and having a conveyor belt extending lengthwise of the train and across the space between adjacent cars, means at the ends of the cars for guiding said belt in the space between cars and arranged to change the relative elevations of the edges of the belt when the train is on a curve, and parts which are connected to the adjacent ends of two cars and to said belt supporting means to swing said belt supporting means into positions in which the edge of the belt adjacent to the outside of the curve is higher than the opposite edge.

12. The combination of a plurality of cars coupled together to form a train and having an endless conveyor belt extending lengthwise of the train and across the space between adjacent cars, means for guiding the upper and lower runs of the belt in the space between adjacent cars, and means actuated by the swinging of adjacent cars relatively to each other to cause said guiding means to tilt the portions of the belt between adjacent cars.

13. The combination of a plurality of hopper cars coupled together to form a train, an endless conveyor belt arranged below said hoppers throughout the length of said train and extending across each space between adjacent cars, the load carrying run of said belt being arranged above the couplers between adjacent cars and the return run being arranged below said couplers, means at the ends of said cars for guiding each run of said belt in the space between cars, a connection between said guiding means, and means for changing the positions of said guiding means in accordance with the angular relation of said cars to each other.

14. The combination of a plurality of cars coupled together to form a train and having a conveyor belt extending lengthwise of the train and across the space between adjacent cars, rollers for guiding and supporting said belt in the space between adjacent cars, said rollers being mounted to swing in substantially upright planes to vary the angular relation of the portions of the belt between cars with reference to the portions of said belt, and means acting in accordance with the angular relation between adjacent cars to swing said rollers.

15. The combination of a plurality of cars coupled together to form a train and having a conveyor belt extending lengthwise of the train and across the space between adjacent cars, rollers for guiding and supporting said belt in the space between adjacent cars, said rollers being mounted to swing in substantially upright planes to vary the angular relation of the portions of the belt between cars with reference to the other portions of said belt, a pair of cables, one of which supports one end of said roller and the other of which supports the other end of said roller, pulleys over which said cables pass and which are located at opposite sides of the longitudinal center of the train, and means for connecting the other ends of the cables to an adjacent car of the train, whereby the swinging of one car relatively to the other will cause a shifting of said roller.

16. The combination of a plurality of hopper cars coupled together to form a train, an endless conveyor belt arranged below said hoppers throughout the length of said train and extending across each space between adjacent cars, the load carrying run of said belt being arranged above the couplers between adjacent cars and the return run being arranged below said couplers, means at the ends of said cars for guiding each run of said belt in the space between cars, and extending transversely of the cars, a link connecting adjacent ends of said guide means, a pair of cables, one of which supports one end of said guide means and the other of which supports the other end of said guide means, pulleys over which said cables pass and which are located at opposite sides of the longitudinal center of said train, and means for connecting the other ends of said cables to an adjacent car of said train at opposite sides of the longitudinal center of the train, whereby the swinging of one car relatively to the other will cause a shifting of said guide means.

17. In a conveying system, the combination of machine having a swinging arm, a conveyor extending lengthwise of said arm and adapted to receive material near the pivot of said arm and discharge the same at the outer end thereof, and a leveling plow guided on the lower edge of said arm to move lengthwise thereof to level the top of the mass of material discharged from said conveyor.

18. In a conveying system, the combination of a machine having a swinging arm, a conveyor extending lengthwise of said arm and adapted to receive material near the pivot of said arm and discharge the same at the outer end thereof, a leveling plow guided on the lower edge of said arm to move lengthwise thereof, and means for moving said plow back and forth lengthwise of said arm to level the top of the mass of material discharged from said conveyor.

19. A conveying system including a dumping machine having a conveyor adapted to receive material at one end and discharge the same at the other end, a train of two or more cars provided with hoppers to receive the material to be transported and adapted to be moved into and out of operative relation to said dumping machine, and a single continuous conveyor extending throughout the length of said train and adapted to receive material from said hoppers and discharge the same to the conveyor of said dumping machine.

20. A conveying system including a dumping machine having a conveyor adapted to receive material at one end and discharge the same at the other end, a train of two or more cars provided with hoppers to receive the material to be transported and adapted to be moved into and out of operative relation to said dumping machine, a single continuous conveyor extending throughout the length of said train and adapted to receive material from said hopper and discharge the same to the conveyor of said dumping machine, and a source of motive power in said train adapted to propel said train and also adapted to be connected with said conveyor of said train for actuating the same.

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