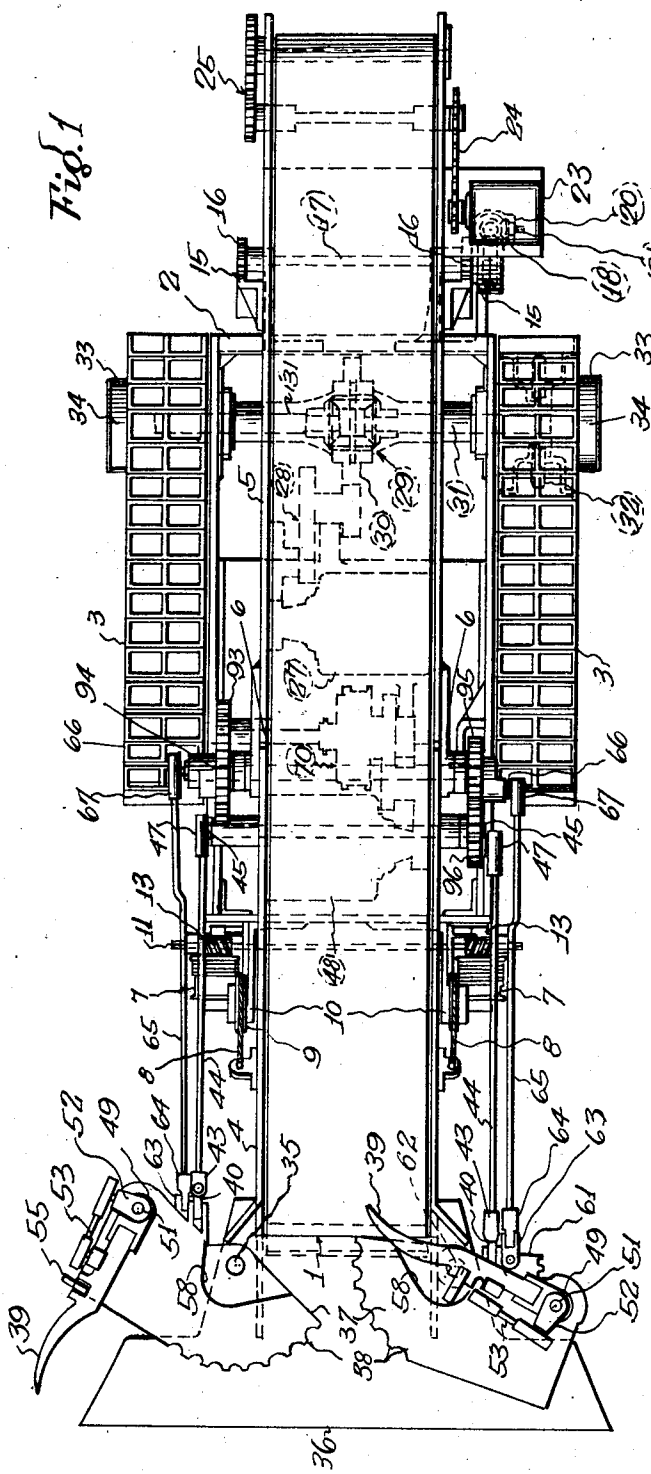
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Original Filed Oct. 14, 1929 5 Sheets-Sheet 1

Fig. 1

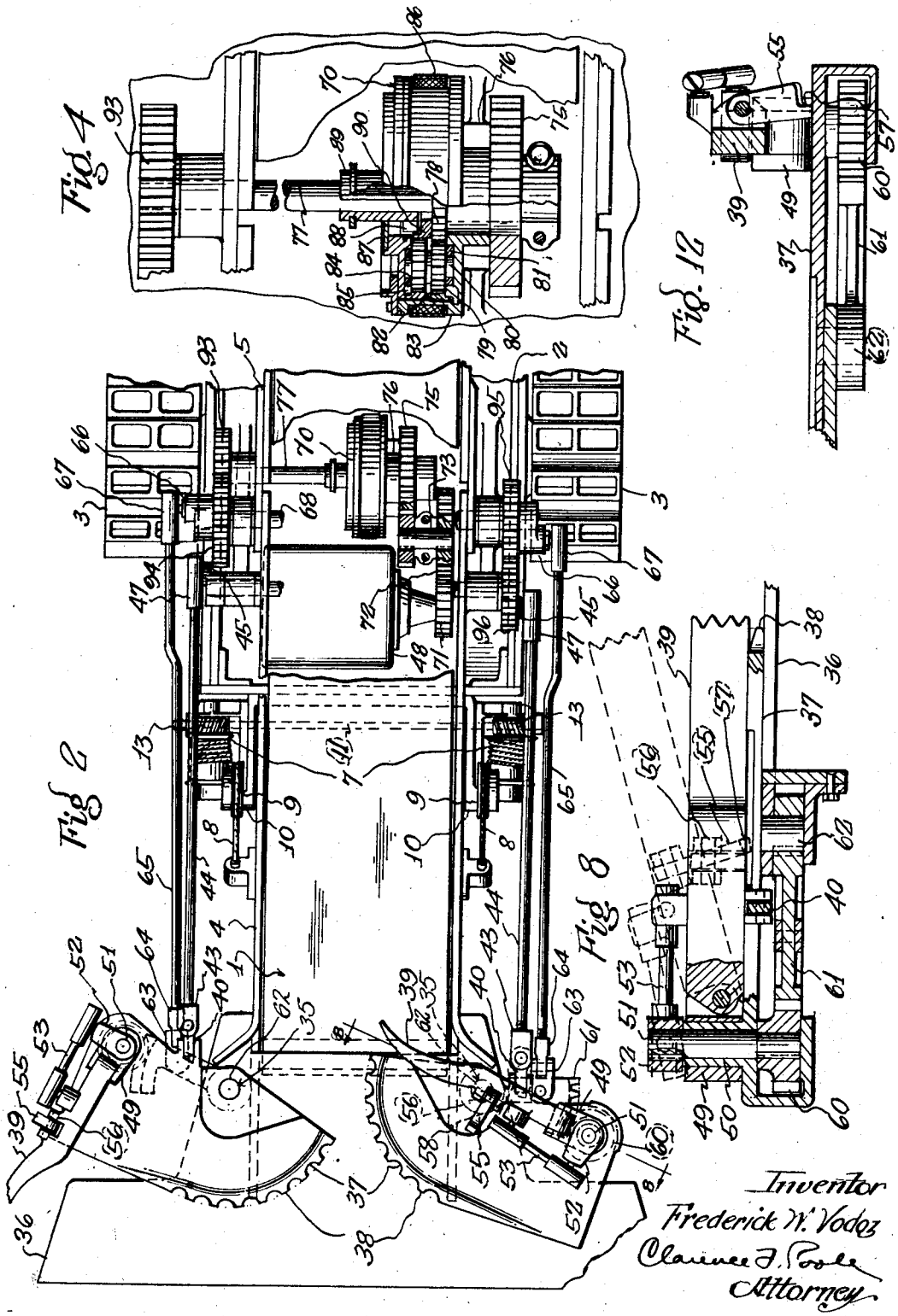


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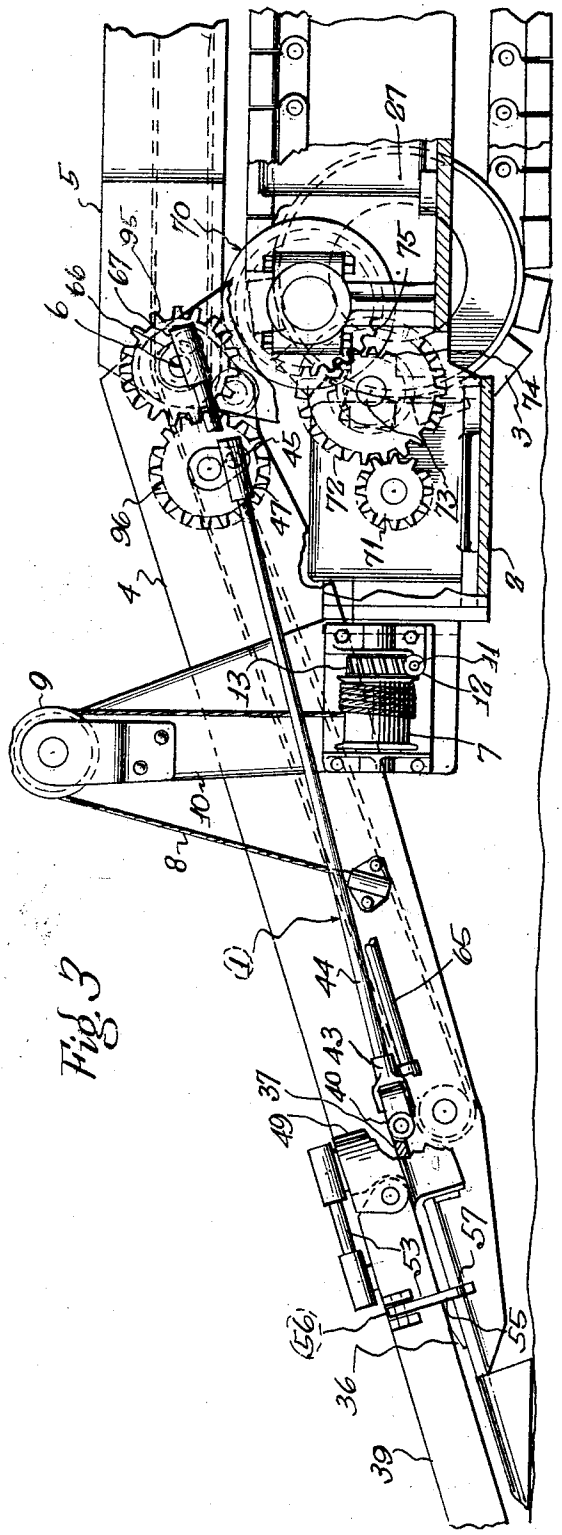


Fig. 3

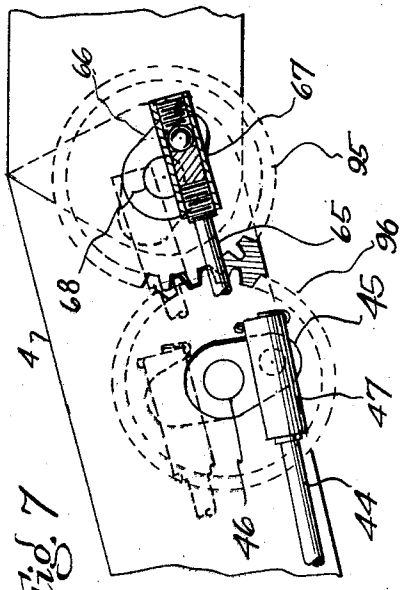


Fig. 7

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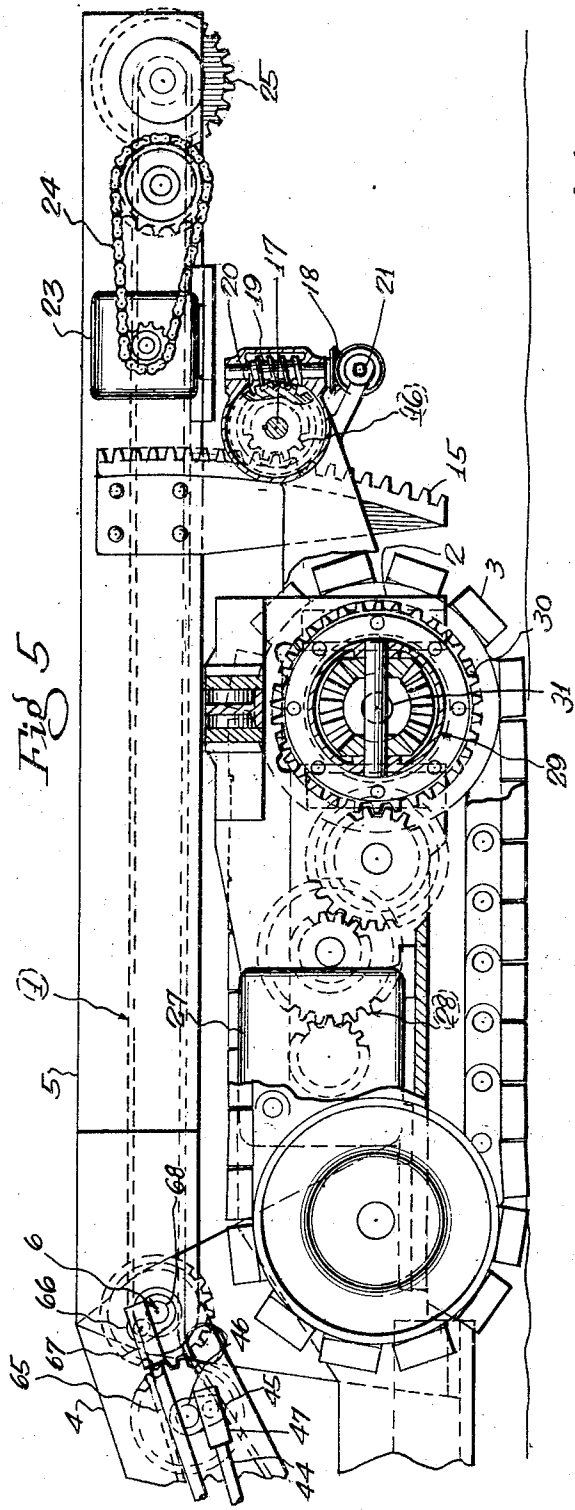


Fig. 5

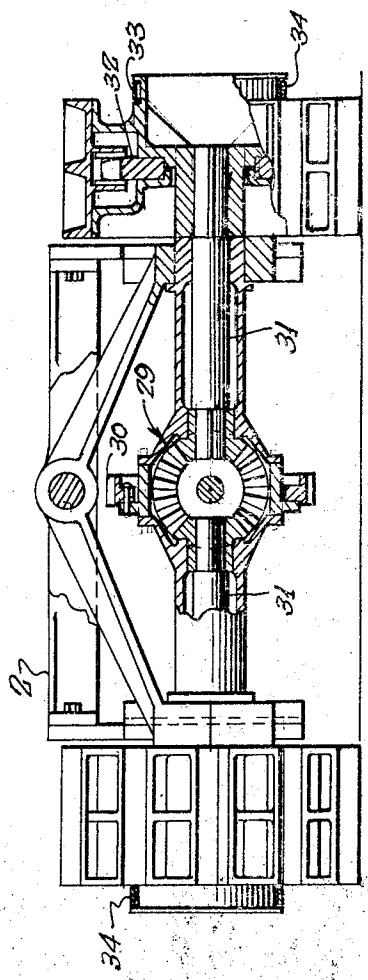


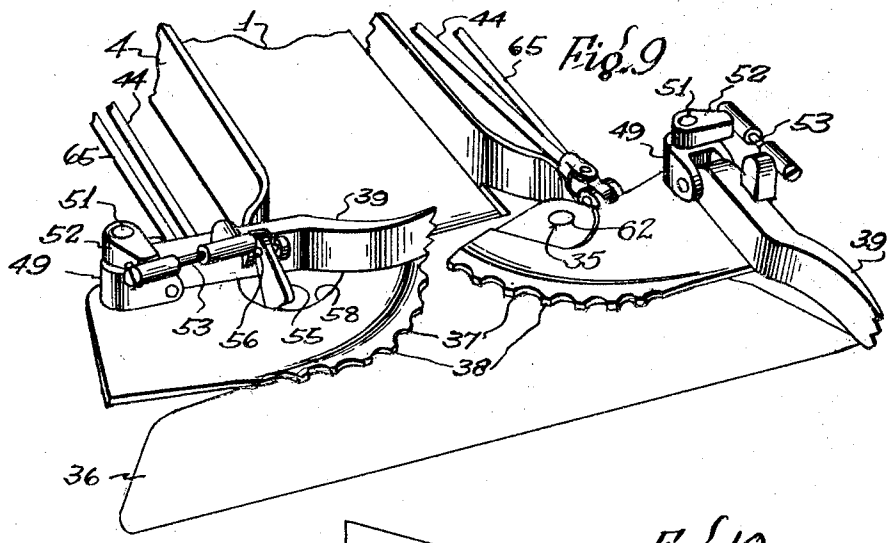
Fig. 6

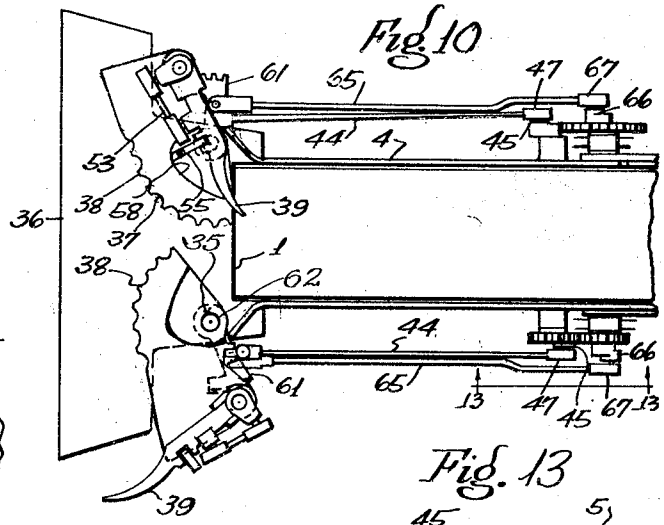
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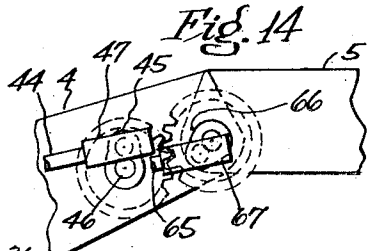
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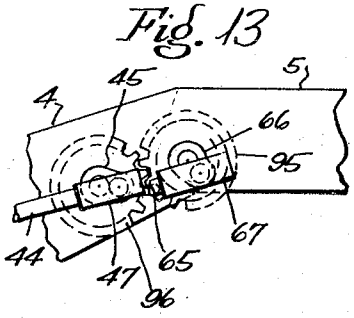
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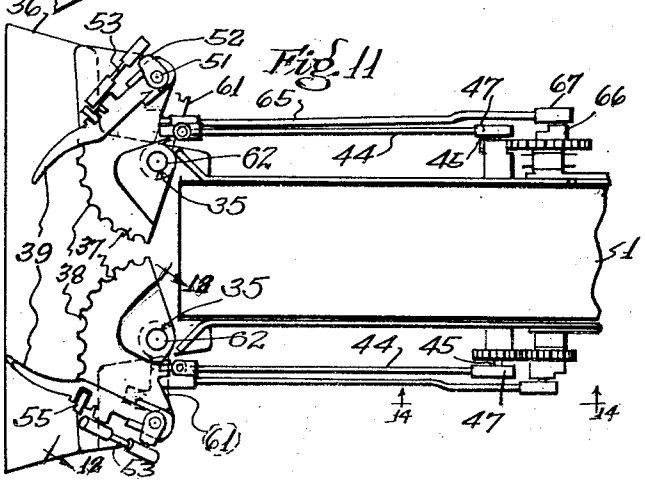
Original Filed Oct. 14, 1929 5 Sheets-Sheet 5











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UNITED STATES PATENT OFFICE

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LOADING MACHINE

Application filed October 14, 1929, Serial No. 399,410. Renewed May 9, 1932.

This invention relates to improvements in loading machines and more particularly to loading machines such as are used in mines and adapted to gather loose material and deposit it upon a travelling conveyor for discharge into cars or the like.

My invention has among other objects to provide an improved form of gathering mechanism operable at a plurality of frictionally controlled speeds so that various sizes and types of loose materials may be loaded without overload of the various parts of the gathering mechanism, and includes novel means for agitating the material to be gathered and keeping said material in a free moving state having gathering arms thereon which are vertically movable after each load has been discharged into a travelling conveyor to prevent engagement with and scattering of the loose material as said gathering arms are moved to a position to engage material to be discharged on said conveyor.

Other objects of my invention will appear from time to time as this specification proceeds.

My invention may be more readily understood with reference to the accompanying drawings wherein:

Figure 1 is a top plan view of the device embodying my invention;

Figure 2 is an enlarged top plan view of the forward portion of the device embodying my invention with parts broken away and in section;

Figure 3 is an enlarged side elevation of the forward portion of the device shown in Figure 1 with parts broken away and in section;

Figure 4 is an enlarged partial fragmentary plan view of a portion of the device shown in Figure 2 with parts broken away and in section to show the details of the planetary reduction gearing;

Figure 5 is an enlarged side elevation of the rearward portion of the device shown in Figure 1 with parts broken away and in section;

Figure 6 is a partial fragmentary sectional view taken through the rear axle of the machine embodying my invention;

Figure 7 is an enlarged partial sectional view of the crank mechanism for driving the gathering arms;

Figure 8 is a partial enlarged sectional view taken on line 8—8 of Figure 2;

Figure 9 is a perspective view of the forward end of the machine showing the gathering arms;

Figure 10 is a plan view of the gathering arms in one position;

Figure 11 is a plan view of the gathering arms in another position;

Figure 12 is a partial sectional view taken on line 12—12 of Figure 11;

Figure 13 is an enlarged side view of the crank arms as positioned in Figure 10; and

Figure 14 is an enlarged side view of the crank arms as positioned in Figure 11.

Like numerals refer to like parts throughout the various figures.

Referring now to the details shown in the drawings, my invention is illustrated in connection with a conveyor apparatus which herein includes a belt conveyor 1. In the form shown the apparatus includes a main frame 2 having continuous tread traction devices 3—3 for moving the apparatus over the mine floor.

The belt conveyor 1 includes an inclined forward portion 4 and a rearward portion 5. The inclined forward portion 4 and the rearward portion 5 are pivotally mounted on the main frame 2 on a common pivotal axis designated at 6 so that the forward portion 4 may be raised or lowered for travelling about the mine and to compensate for a rough or uneven mine bottom, and so that the rearward portion 5 may be raised or lowered to adjust said conveyor portion to the various heights of cars it is desired to load.

Means are provided for moving the forward conveyor portion 4 about its pivotal axis which herein comprises cable drums 7 located on respective sides of the forward conveyor portion 4 and journaled in the main frame 2. Cables 8 pass from the drums 7 upwardly over sheaves 9 mounted on upwardly extending portions 10 of the main frame 2 and downwardly where they are attached to the respective sides of the forward conveyor portion 4. A transverse shaft 11

having worms 12 adjacent each end thereof which mesh with and drive worm gears 13 connected with the cable drums 7 is provided to rotate said drums and raise or lower the forward end of the conveyor 1. The ends of the transverse shaft 11 are squared so that said shaft may be rotated by means of a hand crank (not shown) or any other suitable rotating means.

The conveyor portion 5 is moved about its pivotal axis by means of arcuate racks 15 fixed to respective sides of said conveyor portion near the rearward end thereof, which racks are engaged by pinions 16 fixed on a transverse shaft 17, which shaft is journaled in the main frame 2 so that rotation of said shaft rotates the pinions 16 which moves the conveyor portion 5 about its pivotal axis. The transverse shaft 17 is rotated by a suitable gear train which includes mitre gears 18, worm 19 and worm gear 20, which gears are rotated by means of a suitable hand crank (not shown), which hand crank may be inserted on a squared end of a shaft 21 for driving the mitre gears 18.

The belt conveyor 1 is driven by means of a motor 23. The motor 23 is supported on the conveyor portion 5 near the rearward end thereof and has driving connection with the belt conveyor by means of a chain and sprocket driving device 24 and gear reduction 25 in a usual manner.

A motor 27 is provided for driving the continuous traction tread devices 3—3. The motor 27 is mounted on the main frame 2 and has driving connection with the continuous traction tread devices 3 through reduction gearing 28 and a differential gearing 29. The reduction gearing 28 drives the differential gearing 29 by means of a ring gear 30. The differential gearing 29 is of an ordinary construction and will not be described in detail since it is no part of my invention. Transversely disposed axles 31 are driven by the differential gearing 29 and have sprockets 32 keyed on the outer ends thereof, which sprockets mesh with and drive the continuous traction tread devices 3.

Means are provided for stopping rotation of one sprocket 32 while the other sprocket 32 is rotating to provide a means for turning the device in one direction or another, which means herein comprises brake bands 33 of an ordinary construction which may be tightened against brake drums 34 integral with the outer sides of the sprockets 32. The brake bands 33 are tightened or loosened on the brake drums 34 by means of an ordinary linkage arrangement not shown herein since it is no part of my invention.

Referring now in particular to the novel features of my invention, a pair of gathering devices are provided, one on each side of and adjacent the front end of the conveyor 1. These gathering devices are pivotally movable and alternately reciprocable so as to gather loose material and deposit it on the conveyor 1. See Figures 2, 3 and 7 to 14, inclusive. The construction of these gathering devices is similar so that a description of one will suffice for an understanding of both.

An inclined plate 36 extends forwardly from the forward end of the forward portion 4 of the conveyor 1 and on each side thereof and has sliding engagement with the mine bottom so that said plate may be wedged under the material to be gathered by means of the continuous traction treads 3 during the gathering operation. Adjacent each side of the forward end of the conveyor 1 and pivotally mounted on the plate 36 to pivot about an axis 35 perpendicular to the plane of said inclined plate are agitator plates 37, which plates agitate the loose material as said inclined plate is wedged under said loose material. These agitator plates 37 have teeth 38 on the forward inside edge thereof which agitate the loose material and said agitator plates extend along the plate 36 from a point adjacent the longitudinal center line of the conveyor 1 outwardly to a point near the outer end of said inclined plate.

A gathering arm 39 is pivotally mounted on the outer end of each agitator plate 37 to pivot on said agitator plate, preferably at a different rate of speed than the speed of reciprocation of said agitator plates. These gathering arms 39 are mounted so as to pivot about axes both perpendicular to and parallel with the inclined plate 36 and their forward extremities extend to a point adjacent the forward end of the inclined plate 36.

Referring now to the details of each gathering device and means for operating the same, a member 40 is pivoted on the rearward end of the agitator plate 37 and has a clevis 43 pivoted thereon. A connecting rod 44 has its forward end fixed in the clevis 43 and its rearward end connected to a crank 45 keyed on the outer end of a transverse shaft 46. The connecting rod 44 may be connected to the crank 45 in any usual manner, but as herein shown, the method employed comprises a ball and socket connection 47 of any ordinary construction such as is illustrated in Figure 7. A motor 48 is provided to drive the shaft 46 and cranks 45 through a suitable gear train which will hereinafter be described. The respective cranks 45 are mounted 180 degrees apart to effect alternate reciprocation of the agitator plates 37.

The gathering arm 39 is mounted on a sleeve 49 to pivot about an axis parallel to the plane of the inclined plate 36. The sleeve 49 is mounted on a stud 50 integral with and extending upwardly from the agitator plate 37 to pivot about an axis perpendicular to the plane of the inclined plate 36. A shaft 51 is journaled within the stud 50 and has a forwardly projecting crank lever 52 keyed to its

upper end. A connecting rod 53 connects the outer end of the crank lever 52 with the forward side of the gathering arm 39. A ball and socket joint of an ordinary construction illustrated in Figure 7, but not described in detail since it constitutes no part of my present invention, is used to connect the connecting rod 53 with the crank lever 52 and gathering arm 39 so that rotation of the shaft 51 in a direction towards the longitudinal center line of the conveyor 1 will tend to move the gathering arm 39 towards said conveyor and rotation of said shaft in an opposite direction will tend to move the gathering arm 39 outwardly and simultaneously raise said gathering arm vertically.

Means are provided to aid the crank lever 52 and connecting rod 53 to raise the gathering arm 39 on outward movement of the shaft 51 so that said gathering arm may avoid contact with loose material on its outward stroke which prevents the scattering of loose material as the arm 39 is moved away from the longitudinal center line of the conveyor 1. Said means herein comprises a rider lever 55 pivotally mounted to the forward side of the gathering arm 39 on a pivot pin 56. The rider lever 55 has engagement with the agitator plate 37 at its lower end and has a notched bottom portion 57 which is engageable with a shouldered portion 58 on the agitator plate 37 upon outward movement of the gathering arm 39. See Figures 1, 2, 9, 10, and 12. The shouldered portion 58 is so arranged with respect to the rider lever 55 that said shouldered portion is engaged by the notched bottom portion 57 of the rider lever 55 when the gathering arm 39 is in its extreme inward position on the conveyor 1 as is illustrated in Figures 1, 2, 9 and 10. Thus upon outward movement of the gathering arm 39 the notched bottom portion 57 of the rider lever 55 engages the shouldered portion 58 and said rider lever is moved above its pivotal axis by means of the reaction of the gathering arm 39 on the rider lever 55 and shouldered position 58 which pivots the gathering arm 39 about an axis parallel to the plane of the inclined plate 36 and moves said lever vertically to avoid engagement with loose material on said inclined plate.

A spur pinion 60 is keyed on the lower end of the shaft 51. The spur pinion 60 is engaged by a gear sector 61. The gear sector 61 is pivotally mounted on the lower end of a shaft 62, which shaft is coaxial with the pivotal axis 35 of the agitator plate 37 and serves as a pivotal support for said agitator plate. A member 63 is pivotally connected with the rearward side of the gear sector 61 and has an eye piece 64 pivotally connected thereto. A connecting rod 65 is threaded in the eye piece 64 and projects rearwardly therefrom. The connecting rod 65 is connected to a crank 66 at its opposite end by means of a suitable ball and socket connection 67 of an ordinary construction illustrated in Figure 7. The crank 66 is on the outer end of a transverse shaft 68, which shaft is driven from the motor 48 by a suitable gear reduction drive which will hereinafter be described in detail. Thus rotation of the crank 66 causes reciprocable movement of the gear sector 61 which reciprocably moves the spur pinion 60 and gathering arm 39. Movement of the agitator plate 37 and gathering arm 39 is so timed that said gathering arm and agitator plate both move simultaneously and reach the end of their inward stroke and outward stroke at substantially the same time, the gathering arm 39 preferably travelling at a higher rate of speed than the agitator plate 37 due to the arrangement of said gathering arm thereon and the driving mechanism therefor. This feature is effected by rotating the cranks 45 and 66 in opposite directions preferably at the same rate of speed and by positioning the crank 66 substantially 45 degrees behind the crank 45 as is illustrated in Figure 7. The respective cranks 66 are positioned 180 degrees apart so as to effect alternate reciprocable pivotal movement of the gathering arms 39.

Referring now in particular to the means for driving the agitator plates 37 and gathering arms 39, a drive from the motor 48 has been provided whereby these agitator plates and gathering arms may be driven from the motor 48 at a plurality of frictionally controlled speeds, which drive includes a planetary reduction gearing 70. The planetary reduction gearing 70 is of an ordinary construction and is driven from the motor 48 through a motor pinion 71, spur gear 72 on one end of a shaft 73 and spur gear 74 on the opposite end of said shaft which meshes with and drives a spur gear 75. The spur gear 75 is fixed on a sleeve 76 rotatable about a shaft 77 which shaft is driven by the planetary reduction gearing 70. A sun gear 78 is integral with the sleeve 76 on the opposite end of said sleeve from the spur gear 75 and meshes with planetary pinions 79 on shafts 80 journaled in a cage 81, which cage is rotatable about the sun gear 78. The planetary pinions 79 mesh with an internal gear 82 keyed to the inner periphery of a casing 83 which is rotatable about the sleeve 76. Adjacent the planetary pinions 79 and fixed to the shafts 80 are planetary pinions 84 which mesh with and drive an internal gear 85 free to rotate within the casing 83. A suitable friction band 86 is engageable with the outer periphery of the casing 83 so that when said friction band 86 is in engagement with the casing 83, said casing will be held stationary and the internal gear 85 will rotate within said casing. Any undue load on the internal gear 85 will cause slippage of the friction band 86 on the casing 83 which will release

power from the internal gear 85. Also the speed of rotation of the internal gear 85 may be controlled by the amount of pressure the friction band 86 exerts on the casing 83. The friction band 86 is tightened or loosened on the casing 83 by a system of levers of an ordinary construction not herein shown since it is no part of my invention.

Clutch jaws 87 are integral with the internal gear 85 and may be engaged with clutch jaws 88 on a sleeve 89 feathered on the shaft 77 for driving said shaft at a plurality of predetermined frictionally controlled low speeds. Clutch jaws 90 are also provided on the cage 81 adjacent the shaft 77 which may be engaged by the clutch jaws 88 on the sleeve 89 for driving the shaft 77 at a predetermined frictionally controlled high speed. See Figure 4 which shows the clutch jaws 90 engaged by the clutch jaws 88 for driving the agitator plates 37 and gathering arms 39 at a frictionally controlled high speed. The sleeve 89 is moved along the shaft 77 to engage the clutch jaws 88 with either the clutch jaws 87 or 90 to drive the shaft 77 at a frictionally controlled low or high speed by means of a suitable system of levers not herein shown.

A spur gear 93 is fixed on the outer end of the shaft 77 and driven thereby and meshes with and drives a spur gear 94 on the transverse shaft 68 near one end thereof for driving said shaft and rotating the crank 66. A spur gear 95 is fixed on the transverse shaft 68 near the opposite end thereof and meshes with and drives a spur gear 96 on the transverse shaft 46 for driving said transverse shaft and rotating the cranks 45 in a direction opposite to the direction of rotation of the cranks 66.

It may now be seen that I have provided a loading machine having an inclined forward portion engageable with the mine bottom which may be wedged under the loose or mined material it is desired to load by means of the traction treads 3 and that this inclined forward portion carries material agitating and gathering mechanism thereon, which agitating mechanism continually agitates the loose material so that the inclined forward portion may be more readily wedged under the loose material and so that said loose material may be more readily gathered by the gathering mechanism and discharged onto the conveyor 1.

It may be seen that this gathering mechanism comprises the gathering arms 39 reciprocably pivotally movable towards and away from the conveyor 1 on the agitator plates 37, which gathering arms move simultaneously with said agitator plates 37, and that said gathering arms are vertically movable upon their out stroke away from the conveyor 1 and thus avoid engagement and scattering of said loose material on said out stroke.

It may also be seen that these agitating plates 37 and gathering arms 39 may be driven at a plurality of frictionally controlled speeds and thus may be driven at a slow speed when it is desired to load heavy or closely packed material, or may be driven at a higher speed when it is desired to load lighter or loosely packed material and that since this driving mechanism is frictionally controlled, said gathering arms and agitator plates are automatically stopped upon overload of said gathering arm or agitator plates.

While I have shown and described one embodiment of my invention, it will be understood that the construction and arrangement of the various parts may be altered or changed without departing from the spirit and scope thereof. Furthermore, I do not wish to be construed as limiting myself to the precise form illustrated, excepting as it may be limited in the appended claims.

I claim as my invention:

1. In a loading machine of the class described, a conveyor, and gathering mechanism for gathering and depositing material on to said conveyor comprising a pair of reciprocably movable agitating members extending forwardly of said conveyor and across the forward end thereof having gathering arms pivoted thereon an reciprocably movable with respect thereto in a plane parallel to the plane of movement of said agitating members.

2. In a loading machine of the class described, an inclined conveyor, and gathering mechanism for depositing material on to said conveyor including an inclined plate forwardly of said conveyor and disposed adjacent the mine bottom, an agitating member pivoted thereon for movement about a substantially vertical axis and extending forwardly and transversely of said conveyor and movable towards and away from said conveyor, and a gathering arm pivoted on the outer end of said agitating member for reciprocable movement with respect thereto about an axis parallel to the pivotal axis of said agitating member.

3. In a loading machine of the class described, an inclined conveyor, and gathering mechanism for depositing material on to said conveyor including an inclined plate forwardly of said conveyor and disposed adjacent the mine bottom, an agitating member pivoted on said inclined plate on each side of said conveyor and pivotally movable towards and away from said conveyor about a substantially vertical axis and extending forwardly of said conveyor across the forward end thereof, and a gathering arm pivoted on each of said agitating members near the outer ends thereof and reciprocably movable with respect thereto towards and away from said conveyor about an axis offset from the pivotal

axis of said agitating members and parallel therewith.

4. In a loading machine of the class described, an inclined conveyor and gathering mechanism for depositing material on to said conveyor including an inclined plate extending forwardly of said conveyor and disposed adjacent the mine bottom, an agitating member pivotally mounted on said inclined plate on each side of said conveyor and extending across the forward end of said conveyor and movable towards and away from said conveyor about an axis perpendicular to the plane of said inclined plate, a gathering arm pivotally mounted on each of said agitating members about a substantially vertical axis offset from the pivotal axis of said agitating members, and means for moving said gathering arms about their axes of pivotal connection with said agitating members towards and away from said conveyor simultaneously with said agitating members.

5. In a loading machine of the class described, an inclined conveyor and gathering mechanism for depositing material on to said conveyor including an inclined plate extending forwardly of said conveyor and disposed adjacent the mine bottom, agitating members pivotally mounted on said inclined plate on each side of said conveyor and movable towards and away from said conveyor, a gathering arm pivotally mounted on each of said agitating members, means for moving said gathering arms about their axes of pivotal connection with said agitating members towards and away from said conveyor simultaneously with said agitating members, and means for raising said gathering arms vertically upon movement away from said conveyor.

6. In a loading machine of the class described, an inclined conveyor and gathering mechanism for depositing material on to said conveyor including an inclined plate extending forwardly of said conveyor and disposed adjacent the mine bottom, agitating members pivotally mounted on said inclined plate on each side of said conveyor and movable towards and away from said conveyor, a gathering arm pivotally mounted on each of said agitating members, means for moving said gathering arms about their axes of pivotal connection with said agitating members towards and away from said conveyor simultaneously with said agitating members including a shaft coaxial with the axis of pivotal connection of each of said gathering arms with said agitating members, a crank on said shaft, connecting means from said crank to said gathering arm, and means for raising said gathering arms vertically upon movement away from said conveyor.

7. In a loading machine of the class described, an inclined conveyor and gathering mechanism for depositing material on to said conveyor including an inclined plate extending forwardly of said conveyor and disposed adjacent the mine bottom, agitating members pivotally mounted on said inclined plate on each side of said conveyor and movable towards and away from said conveyor, a gathering arm pivotally mounted on each of said agitating members, means for moving said gathering arms about their axes of pivotal connection with said agitating members towards and away from said conveyor simultaneously with said agitating members including a shaft coaxial with the axis of pivotal connection of each of said gathering arms with said agitating members, a crank on said shaft, connecting means from said crank to said gathering arm, and means for raising said gathering arms vertically upon movement away from said conveyor, comprising rider levers having engagement with shouldered portions on said agitating members.

8. In a loading machine of the class described, an inclined conveyor, and gathering mechanism for depositing material on to said conveyor including an inclined plate extending forwardly of said conveyor and disposed adjacent the mine bottom, agitating members pivotally mounted on said inclined plate on each side of said conveyor and movable towards and away from said conveyor, a sleeve pivotally mounted on each of said agitating members, a gathering arm pivotally mounted on each of said sleeves to pivot about an axis perpendicular to the axis of pivotal connection of said sleeves to said agitating members, and means for moving said gathering arms about the axes of pivotal connection of said aforementioned members to said agitating members towards and away from said conveyor simultaneously with said agitating members including a shaft coaxial with the axis of pivotal connection of each of said aforementioned sleeves and said agitating members, a crank on each of said shafts and connecting rods having one end connectible with said cranks and their opposite end connectible with said gathering arms at a point beyond the point of connection of said gathering arm to said sleeves.

9. In a loading machine of the class described, an inclined conveyor, and gathering mechanism for gathering and depositing material on said conveyor, comprising a gathering arm reciprocably movable towards and away from said conveyor about a substantially vertical axis adjacent the forward end of said conveyor, about an axis offset from said first mentioned axis and parallel thereto, and about an axis perpendicular to said last mentioned axis on pivotal movement away from said conveyor and means for positively moving said gathering arms in a substantially vertical plane about said last mentioned

axis on pivotal movement away from said conveyor.

10. In a loading machine of the class described, an inclined conveyor, and gathering mechanism for gathering and depositing material on said conveyor including an inclined plate extending forwardly of said conveyor and engageable with the mine bottom, gathering arms reciprocably movable towards and away from said conveyor about an axis perpendicular to the plane of said inclined plate adjacent the forward end of said conveyor, about an axis offset from said first mentioned axis away from said conveyor and parallel to said first mentioned axis, and about an axis perpendicular to said last mentioned axis on pivotal movement away from said conveyor and means for positively moving said gathering arms in a substantially vertical plane about said last mentioned axis on pivotal movement away from said conveyor.

11. In a loading machine of the class described, a motor, an inclined conveyor, gathering mechanism for gathering and depositing material on to said conveyor comprising an inclined plate extending forwardly of said conveyor and engageable with the mine bottom, agitating members pivoted on said inclined plate on each side of said conveyor and extending along said conveyor to pivot about an axis perpendicular to the plane of said inclined plate and reciprocably movable towards and away from said conveyor, gathering arms pivoted on said agitating members near the outer ends thereof and reciprocably movable with respect thereto towards and away from said conveyor, and means driven by said motor for simultaneously driving said agitating members and gathering arms at a plurality of predetermined frictionally controlled speeds, comprising separate crank arms connectible with each of said agitating members, and separate crank arms connectible with each of said gathering arms, and a reciprocably movable gear segment operatively connectible with each of said gathering arms.

12. In a loading machine of the class described, a motor, an inclined conveyor, gathering mechanism for gathering and depositing material on said conveyor comprising an inclined plate extending forwardly of said conveyor and engageable with the mine bottom, agitating members mounted on said inclined plate on each side of said conveyor to pivot about an axis perpendicular to the plane of said conveyor, a sleeve pivotally mounted on each of said agitating members adjacent the outer ends thereof on an axis parallel to the pivotal axis of said agitating members, a gathering arm pivotally mounted on each of said sleeves on an axis perpendicular to the pivotal axis of said agitating members, and means for reciprocably moving said agitating members, said sleeve and said gathering arms about their respective axes at a plurality of frictionally controlled speeds comprising a separate crank arm connectible with each of said agitating members, a gear segment pivoted adjacent the under portion of each of said agitating members, a separate crank arm connectible with each of said gear segments, means for operatively connecting said gear segment with said gathering arms comprising a spur pinion coaxial with the pivotal axis of each of said members, a crank coaxial with each of said spur pinions and reciprocated thereby and means for connecting said cranks with said gathering arms at a point beyond the point of connection of said gathering arms to said members.

13. In a loading machine of the class described, an inclined conveyor, gathering mechanism therefor comprising a reciprocably movable gathering arm reciprocably movable across the forward end of said conveyor towards and away from said conveyor in a plane inclined with respect to the horizontal and means for raising said gathering arm upon movement away from said conveyor about an axis substantially parallel to the plane of movement of said gathering arm comprising a member pivotally connected to said gathering arm having a free end adapted to engage a fixed abutment upon movement of said gathering arm away from said conveyor.

14. In a loading machine of the class described, an inclined conveyor, gathering mechanism therefor comprising a reciprocably movable agitating member extending across the forward end of said conveyor having a gathering arm pivoted thereon and movable with respect thereto towards and away from said conveyor in a plane of movement parallel to the plane of movement of said agitating member, and means for raising said gathering arm upon movement away from said conveyor about an axis substantially perpendicular to the axis of pivotal movement of said gathering arm with respect to said agitating member comprising a member pivotally connected to said gathering arm having a free end adapted to engage a shouldered portion of said agitating member upon movement of said gathering arm away from said conveyor.

15. In a loading machine of the class described, a conveyor, gathering mechanism for gathering and depositing material onto said conveyor comprising a pair of reciprocably movable agitating members extending forwardly of said conveyor and across the forward end thereof having gathering arms pivoted thereon and reciprocably movable with respect thereto, and means for raising said gathering arms about an axis perpendicular to the axis of pivotal movement of said agitating members comprising a member pivot-

ally connected to each of said gathering arms having a free end adapted to engage a shouldered portion on each of said agitating members.

Signed at Chicago, in the county of Cook and State of Illinois, this 12th day of October, A. D. 1929.

FREDERICK W. VODOZ.