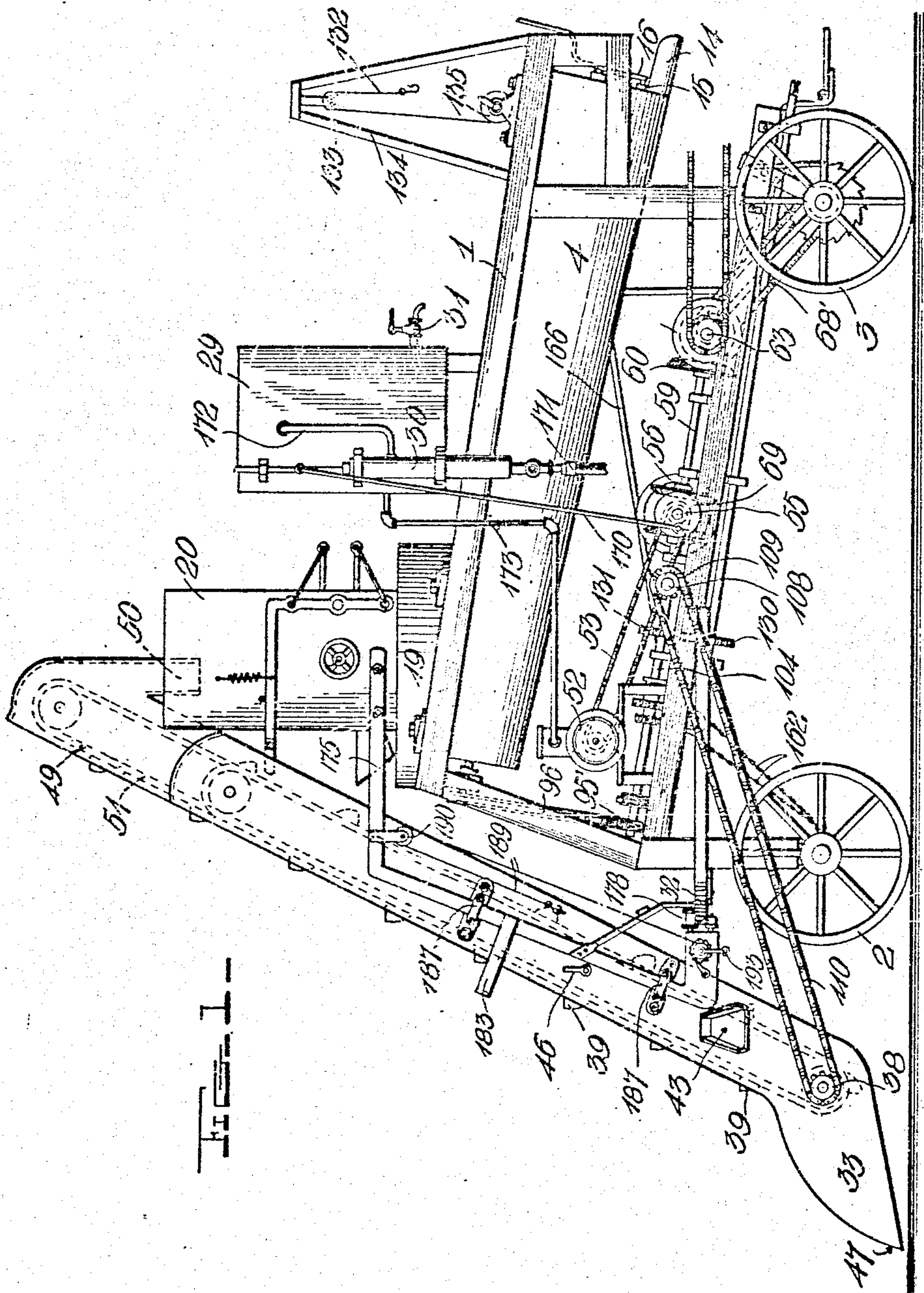


C. M. FASSETT.
CONVEYER FOR CONCRETE MIXING MACHINES.
APPLICATION FILED JULY 19, 1909.

998,763.

Patented July 25, 1911

4 SHEETS-SHEET 1.



Witnesses
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C. H. Gieseler.

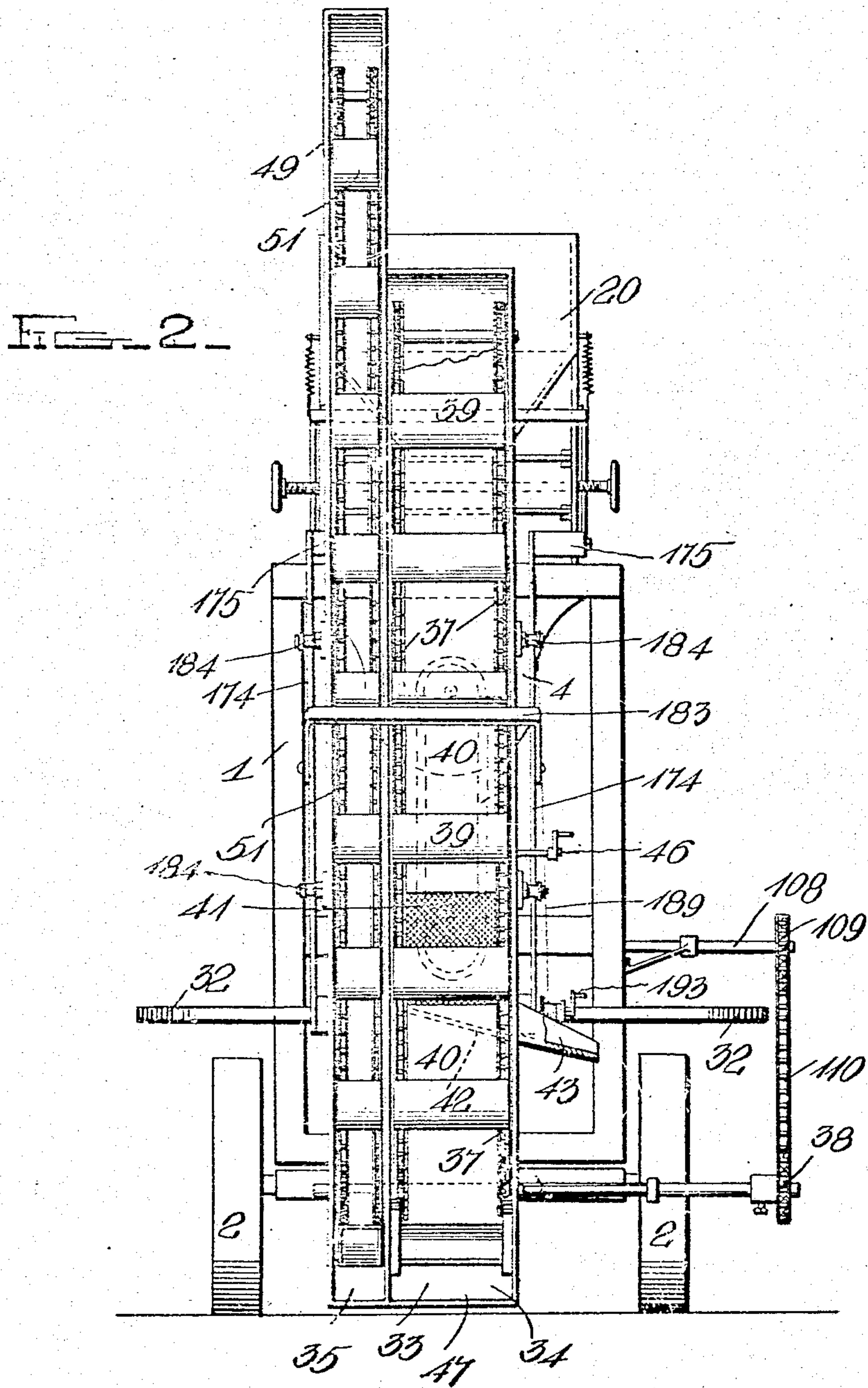
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4 SHEETS—SHEET 2.



Witnesses

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4 SHEETS—SHEET 3.

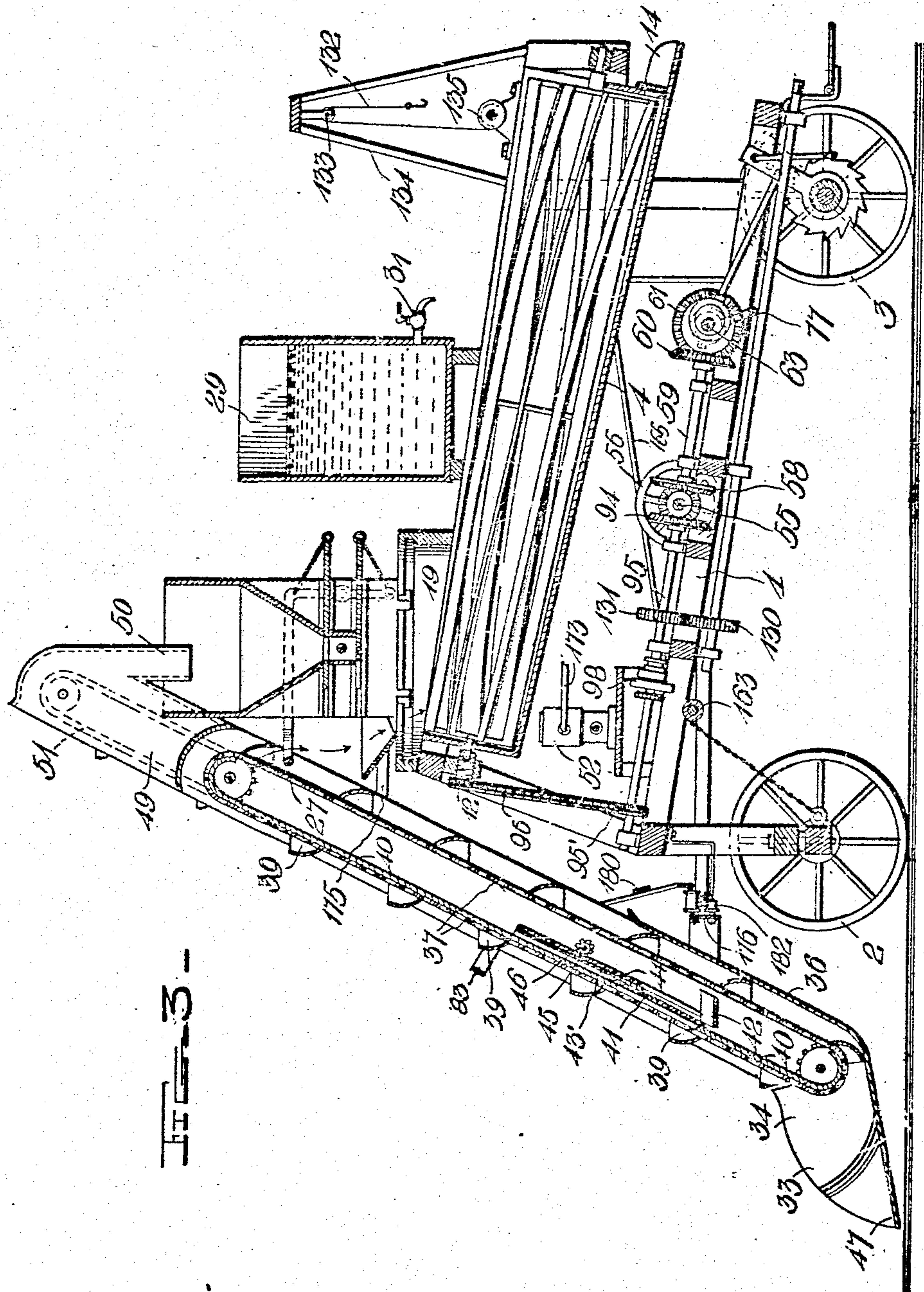


FIG. 3—

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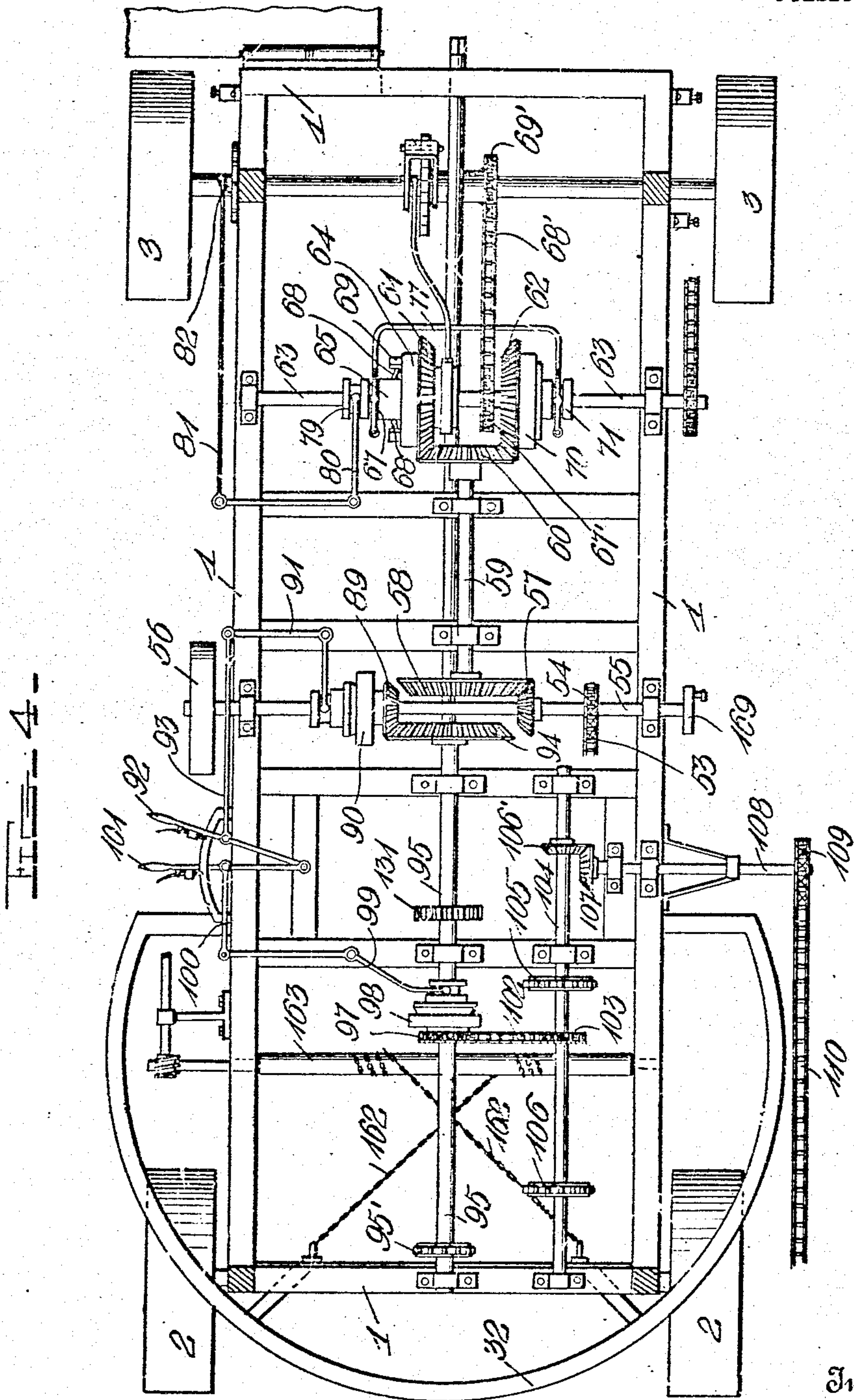
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4 SHEETS-SHEET 4.



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UNITED STATES PATENT OFFICE.

CLAYTON M. FASSETT, OF BROOKINGS, SOUTH DAKOTA.

CONVEYER FOR CONCRETE-MIXING MACHINES.

998,763.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed July 19, 1909. Serial No. 598,256.

To all whom it may concern:

Be it known that I, CLAYTON M. FASSETT, a citizen of the United States, residing at Brookings, in the county of Brookings and State of South Dakota, have invented certain new and useful Improvements in Conveyers for Concrete-Mixing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved conveyer for concrete mixing machines.

The object of the invention is to provide a machine of this character having means arranged thereon for conveying gravel and cement and discharging the same in proper quantities to the mixing device of the machine.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side elevation of a machine equipped with these improvements; Fig. 2 is a front end elevation showing the cement and gravel elevators arranged directly in front of the machine; Fig. 3 is a vertical longitudinal sectional view through the machine; Fig. 4 is a horizontal sectional view of the same taken above the operating gears and shafts.

Referring more particularly to the drawings, 1 denotes the frame of the machine, the front end of which is mounted on steering wheels 2 and the rear end of which is mounted on supporting and traction wheels 3. Arranged in the machine is a central longitudinally disposed inclined mixing trough 4 which is connected with and operated by any suitable driving mechanism.

In the rear end plate of the trough 4 is formed a discharge opening 13 with which is connected a discharge spout 14 by means of which the concrete or the finishing material may be discharged from the trough.

Mounted on a suitable base 19 on the upper portion of the frame 1, is a combined cement hopper and measuring device 20 of any suitable construction.

Suitably mounted on the frame 1 of the machine above the concrete mixing trough

is a water tank 29 with which is connected a pump 30, the piston rod of which is connected to the operating mechanism of the machine by any suitable means whereby water may be pumped from a water wagon or other receptacle into the tank. The tank 29 is provided with a discharge valve 31 which is adapted to be opened to discharge the proper quantity of water into the mixing trough 4.

Suitably arranged in the frame 1 of the machine above the operating mechanism at the front end of the machine is a turn-table 32 which is adapted to support a gravel and cement elevating mechanism by means of which gravel and cement may be elevated and discharged, respectively, into the mixing trough and cement hopper. The elevating mechanism comprises a boot 33 having a curved or substantially semi-circular bottom. The boot 33 is divided by a transverse partition to form a gravel receptacle 34 and a cement receptacle 35. (See Figs. 2 and 3.) With the gravel receptacle is connected a gravel elevator frame 36 having arranged therein a gravel elevator or conveyer consisting of endless chains 37 which travel over suitable sprocket wheels arranged on shafts at the upper and lower end of the elevator frame 36. The lower shaft is provided on one end with a sprocket gear 38 by means of which the shaft and elevator mechanism are operated, said gear being suitably connected with the driving mechanism hereinafter described. To the chains 37 are connected gravel elevator buckets 39, said buckets being open at their back or rear side and are adapted to be drawn upwardly over a guide plate 40 arranged in the elevator frame, said plate forming the back of the buckets when they are engaged therewith in elevating the gravel. At a suitable position in the elevator frame, the guiding or backing plate 40 is cut away to form a space which is covered by a screen 41 over which the buckets of gravel are drawn when being elevated and through which the sand taken up with the gravel is discharged. The sand thus separated from the gravel by the screen 41 is caught upon a suitable deflecting board or chute 42 and conveyed thereby to a discharge spout 43 arranged in a suitable position on the frame of the elevator. Slidably mounted between the side plates of the elevator frame below the sand screen is an adjustable cut-off plate 43'

by means of which the size of the screen opening is regulated when desired. The plate 43' is provided on one edge with a rack bar 44 with which is engaged a spur pinion 45 secured to a crank shaft 46 arranged in one side of the elevator frame whereby said pinion may be turned to raise or lower the cut-off plate, thus regulating the size of the screen surface.

To the front outer side of the portion of the boot 33 which forms the gravel receptacle is secured a gravel scoop 47 which is adapted to be forced into the piles of gravel which have been deposited along the line of travel of the machine thereby scooping up the gravel into the boot from which it is taken up by the elevator buckets. The scoop is used only when the elevator mechanism projects from the forward end of the machine. When the elevating mechanism is arranged on either side of the machine, it is necessary to shovel the gravel into the boot by hand. When the elevating mechanism is arranged on either side of the machine and the gravel shoveled into the boot, I provide a gate or scoop closing plate 48 which is adapted to be removably engaged with the scoop or outer portion of the boot to prevent the gravel shoveled therein from falling out before being taken up by the elevator buckets.

Extending upwardly from the cement receptacle 35 of the boot is a cement elevator frame 49 which is provided with a discharge spout 50 arranged in position to discharge the cement into the cement hopper 20. In the casing or frame 49 is arranged an endless cement conveyer or elevator 51 by means of which cement which is placed into the cement receptacle 35 of the boot is elevated and discharged into the cement hopper from which it is discharged in predetermined quantities into the mixing trough in the manner hereinbefore described. The conveyer 51 is operated by the same shaft by which the gravel elevator is operated, said shaft being revolved by means of the sprocket wheel 38 hereinbefore described.

Suitably mounded on a platform arranged in the front portion of the machine is a motor which is here shown, and which is preferably in the form of a gasoline engine 52. The engine shaft is operatively connected by means of suitable sprocket chains, shafts, gears and rods with the mixer, pump, hopper and conveyer for actuating them at proper intervals.

When the machine is employed for mixing the finishing material the traction or propelling mechanism is thrown out of gear with the main drive shaft by means of suitable shifting levers and clutch devices, so that the driving mechanism will be employed for operating only the mixing auger and the cement and gravel elevating mecha-

nism. When the gravel elevating mechanism is employed in connection with the forming of the finishing material, sand is shoveled into the section of the boot with which this elevator is connected and the sand thus conveyed and discharged into the mixing trough. The cement is elevated and conveyed to the cement hopper and from thence discharged into the mixing trough in the same manner as described in connection with the forming of the rough concrete material. After sufficient finishing material has been mixed up and discharged into the trough the parts are again thrown into operation for propelling the machine.

In the operation of the machine, it will be understood that the buckets of the gravel elevating mechanism are employed as measures for carrying the gravel to the mixing trough and as each bucket passes the cement hopper and discharges its load of gravel in the trough, it will trip suitable levers of the cement measuring or cut-off plates of the hopper and operate said plates to discharge the cement from the measuring pocket into the mixing trough. The quantity of cement thus discharged with each bucket of gravel may be determined by increasing or decreasing the size of the pockets by any suitable means.

In order that the gravel and cement elevators may be raised to permit the machine to be moved from place to place and again lowered to an operative position, I provide a suitable raising and lowering mechanism comprising a pair of parallel track members 174, said track members being bent at right angles at their upper ends to form attaching bars 175, the ends of which are bolted or otherwise suitably secured to the measuring hopper 20, as shown. The lower ends of the track members are also bent rearwardly and are connected together at their rear ends adjacent to the lower turn-table 32 by a cross bar 176. Arranged in the cross bar 176 adjacent to its upper edge, is a bearing bolt 177 on which is revolubly mounted a double flanged roller 178 which engages and is adapted to travel on the lower turn-table 32. The outer end of the bearing bolt 177 is engaged with a rearwardly projecting brace 179, the side bars of which are connected by a transversely disposed bar 180. Also secured in the cross bar 176 is a bearing bolt 181, on which is revolubly mounted a lower turn-table engaging roller 182, said roller having a flanged inner end, as shown. The track bars are connected together on their outer sides by a rectangular brace 183, said brace preventing the spreading or lateral movement of the track members.

On the opposite sides of the gravel and cement elevators are arranged upper and lower pairs of flanged guide rollers 184 which engage the track members 174, as

shown. The rollers 184 are revolvably mounted on bearing bolts 185 which are secured in attaching plates 186, said plates being bolted or otherwise secured to the sides of the elevators. The outer ends of the bearing bolts 185 are connected together across the outer side of the track members by connecting bars 187 whereby said bolts are braced and the guide rollers held in operative engagement with the track members. By means of the rollers 184, the elevators are slidably connected to the tracks and may be raised and lowered thereon by means of a raising and lowering mechanism now to be described.

The raising and lowering mechanism is here shown and preferably consists of a winding shaft 188 which is mounted in suitable bearings on the rearwardly extending lower portions of the track members and to said shaft is connected one end of a raising and lowering cable 189, which extends upwardly and around a guide pulley 190 mounted in a suitable bracket on the upper rearwardly projecting arms 175 of the track members and from said pulley extends downwardly and has its ends secured to the sides of the gravel elevator in any suitable manner. On one end of the shaft 188, is fixed a ratchet gear 191 with which is adapted to be engaged a locking pawl 192 by means of which the shaft 188 is held against retrograde movement while the cable is being wound up to raise the elevators and by means of which the elevators are held in a raised position. On the end of the shaft 188 is mounted a crank handle 193 by means of which the shaft is operated.

By means of the raising and lowering mechanism just described, the gravel and cement elevators may be raised to a sufficient height to permit the machine to travel from one place to another without danger of the lower ends of the elevators striking obstructions.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

I claim as my invention:

1. In a machine of the character described, a collecting and elevating mechanism, a measuring conveyer in said elevating mechanism whereby the collected material is elevated and discharged in measured quantities, an elevator supporting turn-table, elevator raising and lowering tracks, means to rotatably connect the lower ends of said

tracks with said turn-table, guide rollers mounted on the opposite sides of said elevator mechanism and adapted to operatively engage said tracks, and means arranged on said tracks and connected with the elevator mechanism whereby the latter may be raised and lowered.

2. In a machine of the character described, the combination of a collecting and elevating mechanism, a measuring conveyer in said elevating mechanism whereby the collected material is elevated and discharged in measured quantities, an elevator supporting turn-table, elevator raising and lowering tracks, and means to rotatably connect the lower ends of said tracks with said turn-table.

3. In a machine of the class described, the combination of a gravel collecting and elevating mechanism, a conveyer in said elevating mechanism whereby the collected material is elevated and discharged, an elevator supporting turn-table, elevator raising and lowering tracks, means to rotatably connect the lower ends of said tracks with said turn-table, and means arranged on said tracks and connected with the elevator mechanism whereby the latter may be raised and lowered.

4. In a machine of the character described, the combination of a gravel collecting and elevating mechanism, a gravel conveyer in said elevating mechanism, whereby the gravel is elevated and discharged in measured quantities, an elevator supporting turn-table arranged on the forward end of the machine, elevator raising and lowering tracks, and upper and lower turn-table engaging rollers revolvably mounted on the lower ends of said tracks whereby the latter are rotatably connected with said turn-table.

5. In a machine of the character described, the combination of a gravel collecting and elevating mechanism, a gravel measuring conveyer in said elevating mechanism whereby the gravel is elevated and discharged in measured quantities, an elevator supporting turn-table arranged on the forward end of the machine, elevator raising and lowering tracks, upper and lower turn-table engaging rollers revolvably mounted on the lower ends of said tracks whereby the latter are rotatably connected with said turn-table, the upper roller having guide flanges at its opposite ends, the lower roller at its inner end only, a winding shaft revolvably mounted in the lower portion of said tracks, and means connected with said shaft whereby said elevating mechanism is raised and lowered.

6. In a machine of the character described, a collecting and elevating mechanism, a measuring conveyer in said elevating mechanism whereby the collected material is ele-

vated and discharged in measured quantities, an elevator supporting turn-table arranged on one end of the machine, elevator raising and lowering tracks, upper and lower
5 turn-table engaging rollers revolubly mounted on the lower ends of said tracks whereby the latter are rotatably connected with said turn-table, flanged track engaging rollers mounted on the opposite sides of said
10 elevator mechanism, a winding shaft revolubly mounted in the lower portion of said tracks, an elevating cable connected to said

shaft whereby said elevating mechanism is raised and lowered by said winding shaft, a pawl and ratchet holding mechanism connected with said shaft, and a crank handle whereby the latter is elevated.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CLAYTON M. LASSETT.

Witnesses:

WALLACE E. PURDY,
GEO. P. HALL.