

No. 698,910.

Patented Apr. 29, 1902.

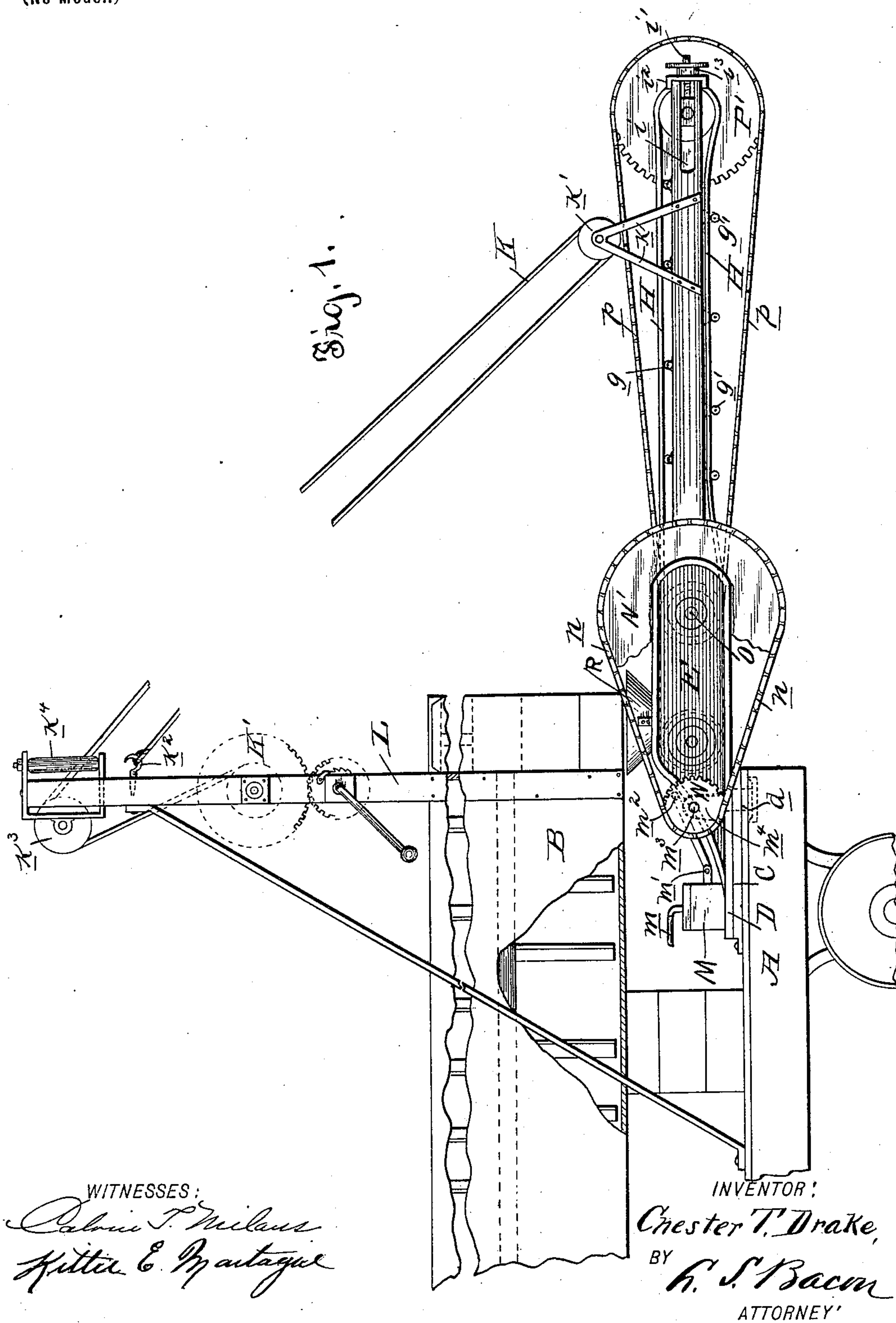
C. T. DRAKE.

CONVEYER ATTACHMENT FOR MIXING MACHINES OR THE LIKE.

(Application filed June 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES :

WITNESSES:
Calvin T. Milans
Hattie E. Montague

INVENTOR:

Chester T. Drake

BY

BY *H. S. Bacon*

ATTORNEY"

No. 698,910.

Patented Apr. 29, 1902.

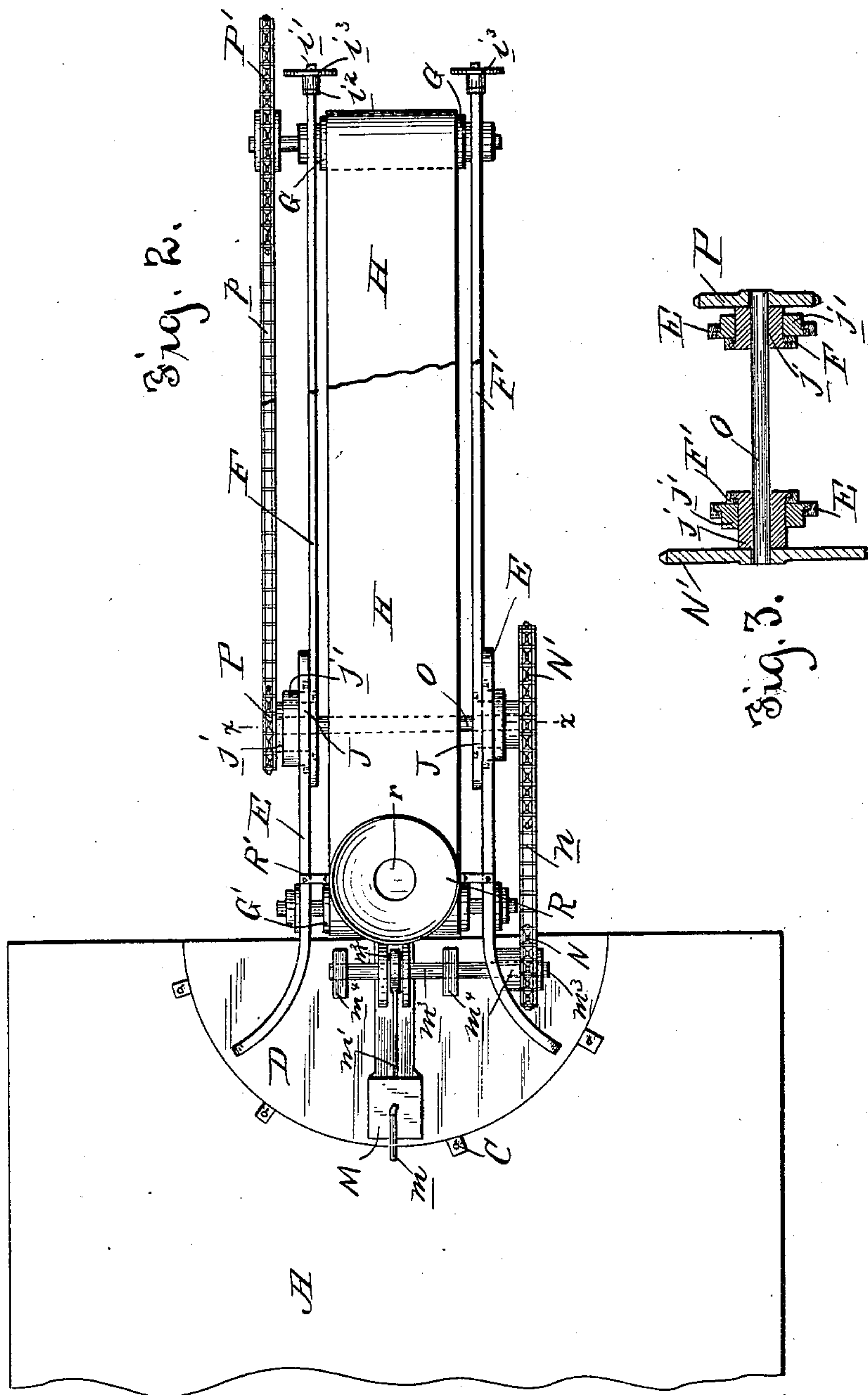
C. T. DRAKE.

CONVEYER ATTACHMENT FOR MIXING MACHINES OR THE LIKE.

(Application filed June 7, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Chester T. Drake
Hitler C. Montague

INVENTOR:

Chester T. Drake

BY

H. S. Bacon
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHESTER T. DRAKE, OF CHICAGO, ILLINOIS.

CONVEYER ATTACHMENT FOR MIXING-MACHINES OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 698,910, dated April 29, 1902.

Application filed June 7, 1901. Serial No. 63,529. (No model.)

To all whom it may concern:

Be it known that I, CHESTER T. DRAKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Conveyer Attachments for Mixing-Machines or the Like; and I do hereby 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 attachment designed to be employed in connection with a concrete or analogous machine of that type in which a mixer-vehicle is adapted to be conveyed from place to place and the material discharged from the mixing-chamber is carried by the conveyer directly to the point where it is desired that the material be deposited for immediate use.

It is desirable in conveyers of the type mentioned that they be capable of swinging laterally to a greater or less extent and that the driving instrumentalities for the conveyer be so arranged that the least possible mechanism be necessary. To attain this object, the invention herein contemplates the employment of a turn-table, upon which is supported said operating means in a manner that no matter what be the position of the conveyer laterally relative to the machine power will be directly applied to the conveyer, so that the provision of complicated operating mechanism to permit this lateral movement of the conveyer should the same be mounted upon the vehicle itself is entirely obviated.

The invention also embraces the idea of supporting at the inner end of the conveyer a hopper of suitable type adapted to receive the material discharged from the mixer and direct the same onto the conveyer.

The invention also relates to improved means for supporting and vertically adjusting the outer or free end of the conveyer.

Novel details in the construction and arrangement of the several parts of the conveyer will be apparent from the detailed description hereinafter and the appended claims when taken in connection with the accompanying drawings, forming part hereof, wherein

a preferable embodiment of the invention is illustrated.

In said drawings like reference characters designate corresponding parts in the several views.

Figure 1 is a side elevation of the improved conveyer shown as supported at one end of the mixer-vehicle, parts being broken away. Fig. 2 is a plan view of the conveyer and its operating means, and Fig. 3 is a detailed sectional view on the line *x x* of Fig. 2.

Referring more specifically to the drawings, A designates the end of a conveyer designed to convey a mixer B of any desired type, the vehicle being provided with suitable wheels or runners to travel upon the ordinary plain surfaces or with flanged track-wheels, if found expedient. At the extreme forward portion the vehicle is provided on its upper surface with a substantially semicircular metallic bearing-plate C, and disposed to ride upon said bearing-plate is a turn-table D, pivotally secured thereto through the medium of the pivot-bolt *d*. At opposite points on the turn-table and rigidly secured thereto are brackets E, parallel at their outer ends and extending in a direction longitudinally of the mixer.

F, F' are side strips, preferably of angle-iron, carrying at their outer ends a pulley or roller G, over which a suitable conveyer-belt H of desirable form is adapted to pass, the same at its opposite end passing around a similar pulley or roller G', pivoted in the brackets E. This conveyer-belt is supported intermediate its ends upon relatively smaller guide-rollers *g g'*, supported in perforated ears extending, respectively, above and beneath the side supporting-bars, and that a desired tension may at all times be exerted upon the belt the ends of the side bars are slotted, as at *i*, in which is adjustably mounted the ends of the axle of the roller G, the same being supported in suitable boxes and the adjustment being effected through the medium of the screw-threaded stem *i'*, passing through the end plates *i²* and engaged by the nuts *i³*.

That the conveyer-belt may be elevated and lowered when desired the inner ends of the side bars are pivotally secured at J to the

outer ends of the brackets E, the connection being through the medium of projecting stubs j , rigidly secured to the sides F and adapted to rotate in the journals j' , rigidly secured to the brackets E. This construction is best shown in Fig. 3. At approximately the outer end of the conveyer in suitable uprights k a pulley k' is supported, around which works an operating rope or cable K, the same being secured at one end over a hook k^2 upon the standard L on the vehicle and the free end projecting outwardly over a pulley k^3 at the upper end of said standard and thence downwardly around an operating-drum K'. The rope is guided between parallel vertically-disposed rollers k^4 , which insures the same against working out of the grooved periphery of the pulley when the conveyer is swung from side to side. By this arrangement a simple but efficient mechanism is provided for suspending the outer end of the conveyer at different elevations while in operation and for elevating the same alongside the vehicle when not in use. At the center of the turn-table in alinement with the conveyer-belt is mounted a motor M of any convenient type, that shown being preferably a steam-engine adapted to receive its source of power through a flexible pipe connection m , leading to a steam-supply. This motor has the usual pitman m' , connected at its ends with a crank m^2 , mounted upon an axle m^3 , the axle in turn being rotatably supported in standards m^4 . At one end of the axle a relatively small gear-wheel N is secured, transmitting motion to the shaft O through the relatively larger gear N' (broken away in Fig. 1 to show the bracket E) at the end of the shaft and the connecting-chain n . At the end of the shaft opposite the gear N' is a relatively smaller gear P in operative connection with a relatively larger gear P' through the medium of the chain p . The last-mentioned gear is attached to the projecting end of the axle of the belt-roller G.

A hopper R is supported upon the brackets E above the inner end of the conveyer-belt and beneath the end of the mixer. The hopper may be supported in any suitable manner—as, for instance, by metallic straps R'. The hopper is preferably funnel-shaped, terminating in a reduced outlet r , so that the ingredients which have been mixed will not be distributed by centrifugal force, but will be concentrated by means of the funnel-shaped hopper and delivered upon the conveyer-belt in the desired mixed condition.

By the above construction it will be apparent that irrespective of what position the conveyer-belt and its associated parts occupy, either vertical or lateral, the operating mechanism will at all times have direct connection by reason of the side supporting-bars being pivoted as shown and the driving-motor being carried by the turn-table, the desired traveling motion being imparted to the con-

veyer-belt through the medium of the gearing hereinbefore described.

The forward edges of the turn-table and its bearing-plate may be beveled or the table may have secured to its upper surface a suitable guide-roller to facilitate the travel of the chain n thereover.

While a special construction has been delineated in the drawings, it is to be understood that such construction is shown for the mere sake of assistance in understanding the invention and that various changes and alterations in the arrangement and details may be made without in the least departing from the nature and spirit of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In combination with a mixer or the like, a turn-table thereon, brackets on the turn-table, side bars pivoted to said brackets, a rotatable shaft extending through and constituting a pivotal connection between said side bars and brackets, a roller mounted at the end of said side bars, a corresponding roller mounted in the brackets beneath the discharging end of the mixer and beyond the pivotal points of the side bars, a conveyer-belt passing over said rollers, means for communicating power to said rotatable shaft, and driving instrumentalities for operating said belt from said rotatable shaft, substantially as described.

2. In combination with a mixer, a conveyer comprising a suitable support, brackets on said support, a roller mounted in said brackets, a supporting-frame, a roller mounted at the free end of said frame, a conveyer-belt passing around the two rollers, and a rotatable shaft extending through and constituting a pivotal connection between the supporting-frame and the brackets located at a point intermediate the rollers, and driving mechanism for operating the belt from said rotatable shaft, substantially as described.

3. In combination with a mixer, a conveyer comprising a suitable support, brackets on said support, a roller mounted in said brackets, side bars, a roller mounted at the end of said side bars, a belt passing around both rollers, a pivotal connection between the side bars and the brackets comprising projecting stubs on the side bars, and spindles on the brackets in which the stubs are adapted to rotatably engage, substantially as described.

4. The combination with a mixer, of a turn-table mounted thereon beneath the discharging end thereof, brackets secured to and extending outwardly from said turn-table, a conveyer-frame pivotally supported by said brackets, a conveyer-belt guided upon said frame, a motor mounted upon said turn-table intermediate of said brackets, and power connections between said motor and conveyer-belt whereby the latter is driven.

5. The combination with a mixer, of a turn-

table mounted thereon beneath the discharging end thereof, brackets secured to and projecting outwardly from said turn-table and adapted to be shifted therewith, a conveyer-
 5 frame pivotally secured to said brackets, guide-rollers in said brackets and said frame, an endless conveyer-belt passing around said rollers, and a motor operatively connected to said conveyer-belt and mounted upon the
 10 turn-table so as to be shifted therewith.

6. In combination with a mixer or the like, a conveyer projecting outwardly therefrom, means for permitting a lateral swinging movement thereof, means for permitting a vertical
 15 swinging movement thereof, means for raising and lowering the conveyer comprising a rope communicating with the outer end thereof, vertical standards on the mixer-frame, means supported by said standards for oper-
 20 ating said rope, and a pair of vertical guides and a horizontal guide supported by said standards between which the rope passes to preserve a proper alinement between said operating-rope and its operating means irre-
 25 spective of the lateral movement of the conveyer, substantially as described.

7. In a device of the character described, the combination with a suitable support, of
 30 side bars pivotally connected to said support, guide-rollers journaled in said support and in the outer ends of said side bars respectively, a rotatable shaft passing through said side bars and said support and constituting the pivotal connection between said bars and sup-
 35 port, a conveyer-belt passing around said rollers, sprocket-wheels on one end of said shaft and the corresponding end of the roller journaled in the outer end of said side bars, a sprocket-chain connecting said sprocket-
 40 wheels, means for imparting a proper tension to the conveyer-belt and to the sprocket-chain comprising journal-boxes for the roller slidably mounted in the ends of the side bars, means for adjusting said boxes, and means for
 45 communicating power to said rotatable shaft, substantially as described.

8. In combination with a mixer or the like,

a turn-table mounted thereon, brackets on said turn-table, a supporting-frame secured to said brackets, rollers in the supporting-
 50 frame and brackets respectively, a conveyer-belt passing around said rollers, means for operating said conveyer-belt, and a funnel-shaped hopper supported upon the brackets above the belt and adapted to receive the dis-
 55 charge from the mixer, substantially as described.

9. In combination with a mixer or the like, a turn-table mounted thereon, brackets ex-
 60 tending from said turn-table, a supporting-frame pivotally mounted in said brackets, rollers in the supporting-frame and brackets respectively, a conveyer-belt passing around said rollers, a motor on the turn-table adapted to be shifted therewith, and gearing in-
 65 strumentalities in communication with the motor and one of the belt-rollers cooperating to operate the belt, substantially as described.

10. In combination with a mixer or the like, a turn-table mounted thereon, brackets on
 70 said turn-table, a supporting-frame pivotally secured to said brackets, rollers in said brackets and supporting-frame respectively, a motor mounted on the turn-table and adapted to be shifted therewith, means for establish-
 75 ing communication between said motor and the outer belt-roller comprising a shaft passing through the pivotal points of the supporting-frame and the brackets, sprocket-
 80 wheels at the opposite ends of said shaft, a sprocket-wheel on the outer belt-roller, a chain passing over said last-mentioned sprocket-wheel and one of the sprocket-
 85 wheels on the shaft, and a chain passing over the sprocket-wheel at the opposite end of the shaft and in operative connection with the motor, all substantially as shown and de-
 scribed.

In testimony whereof I affix my signature in presence of two witnesses.

CHESTER T. DRAKE.

Witnesses:

O. PETERSON,
 J. W. WEBER.