

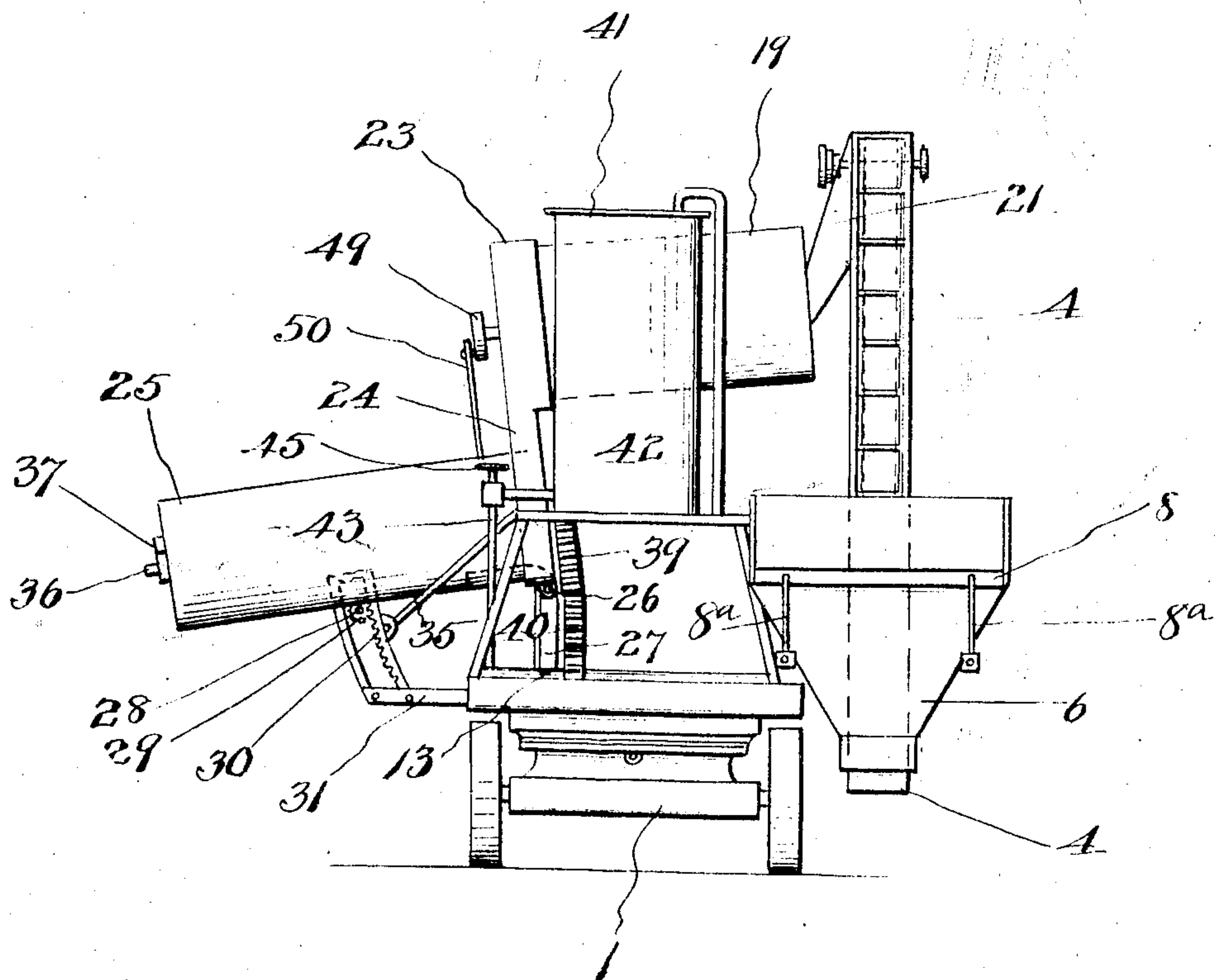
A. M. PETERSON.
MORTAR OR CONCRETE MIXER.
APPLICATION FILED JAN. 8, 1909.

940,552.

Patented Nov. 16, 1909

4 SHEETS—SHEET 1.

Fig. 1.



Inventor

Andrew M. Peterson

Witnesses

James A. Blackwood
W. A. Anderson, Jr.

By

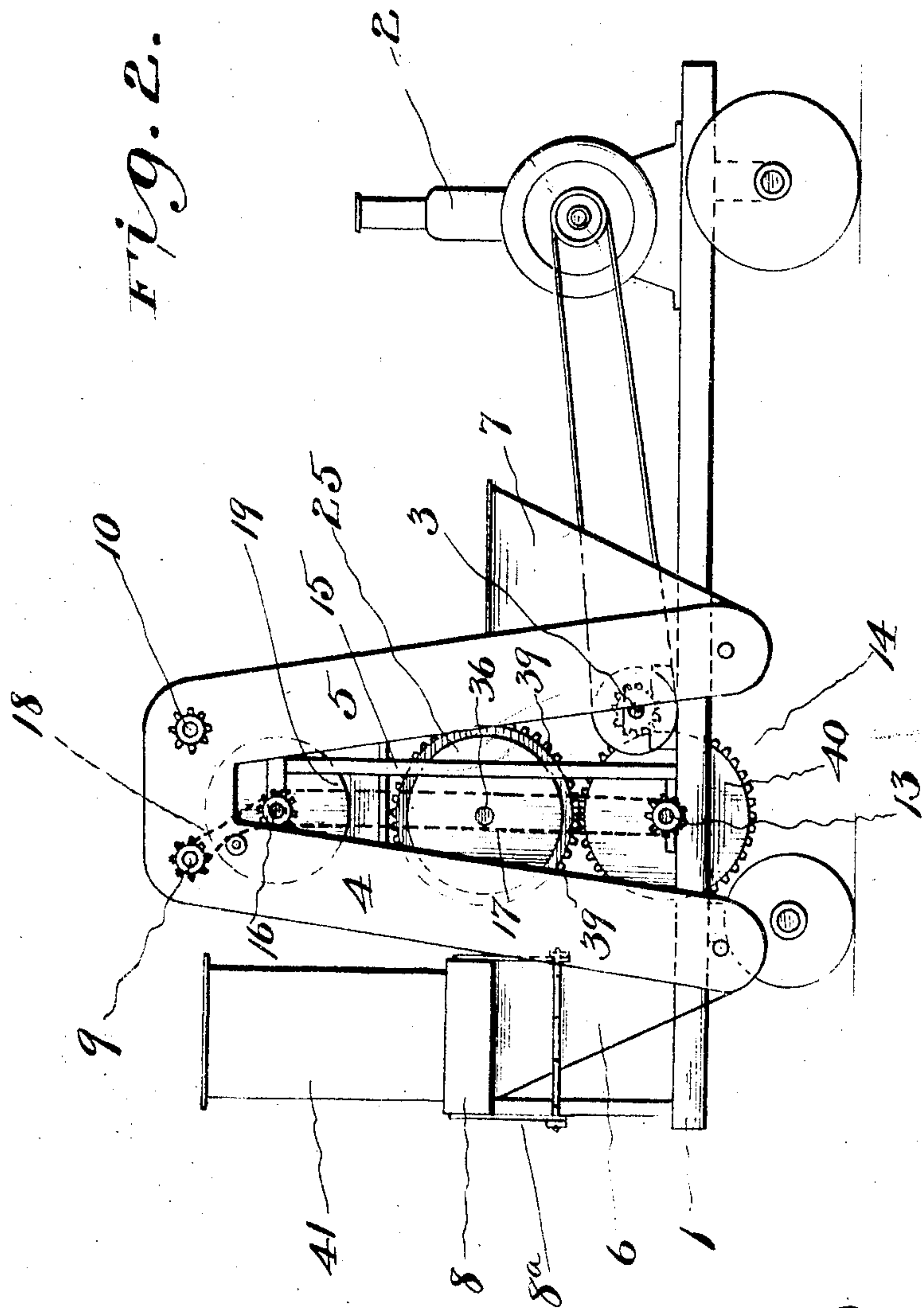
J. A. Gourick

A. M. PETERSON.
MORTAR OR CONCRETE MIXER.
APPLICATION FILED JAN. 8, 1909.

940,552.

Patented Nov. 16, 1909

4 SHEETS—SHEET 2.



Inventor

Witnesses

James H. Blackwood
W. H. Audolph, Jr.

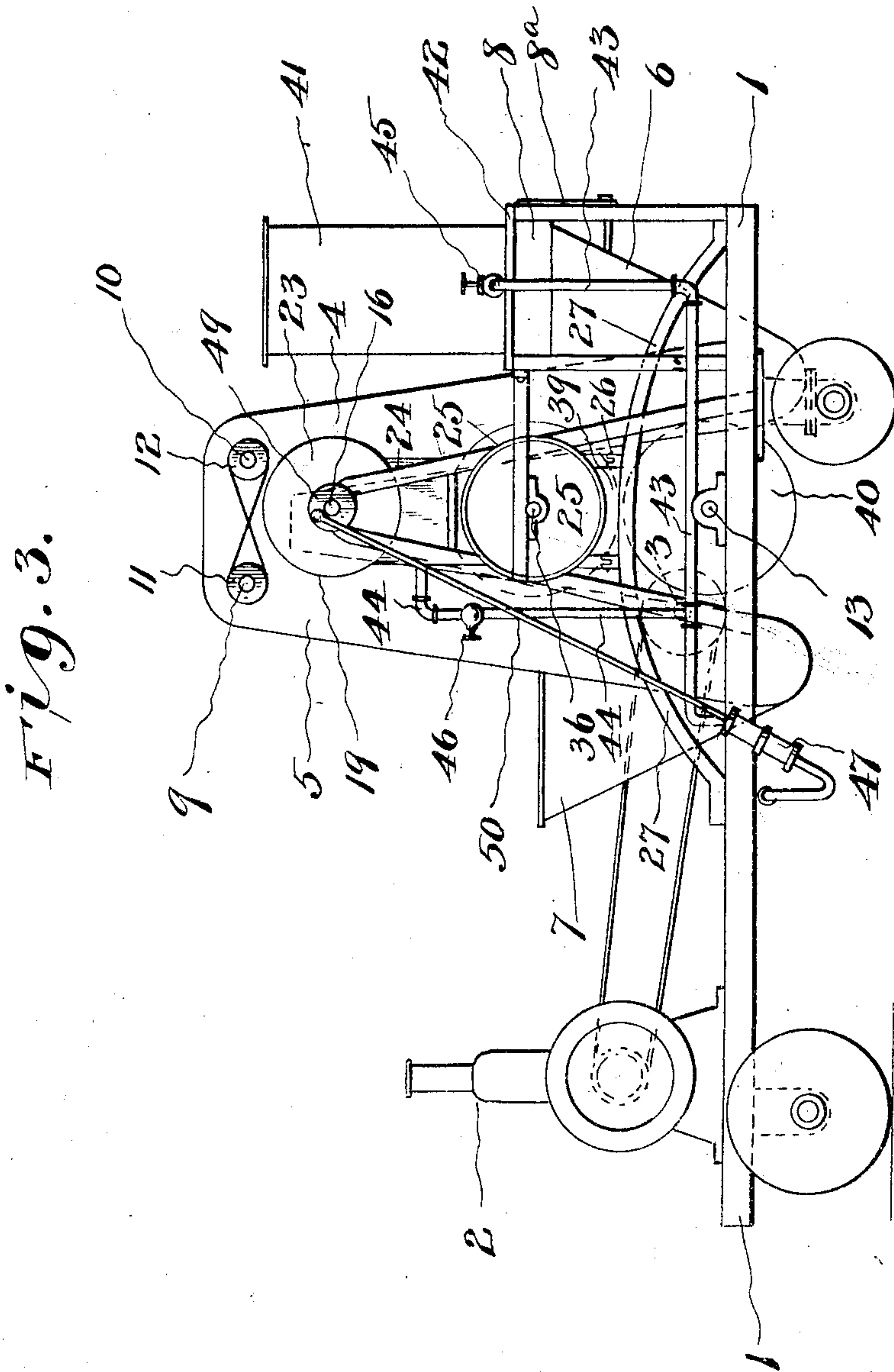
Andrew M. Peterson
By *A. A. Gourick*
Attorney

MORTAR OR CONCRETE MIXER.
APPLICATION FILED JAN. 8, 1909.

940,552.

Patented Nov. 16, 1909.

4 SHEETS—SHEET 3.



Witnesses

W. H. Kauder, Jr.

Inventor

Andrew Mc Peterson

३५

D. A. Gourick

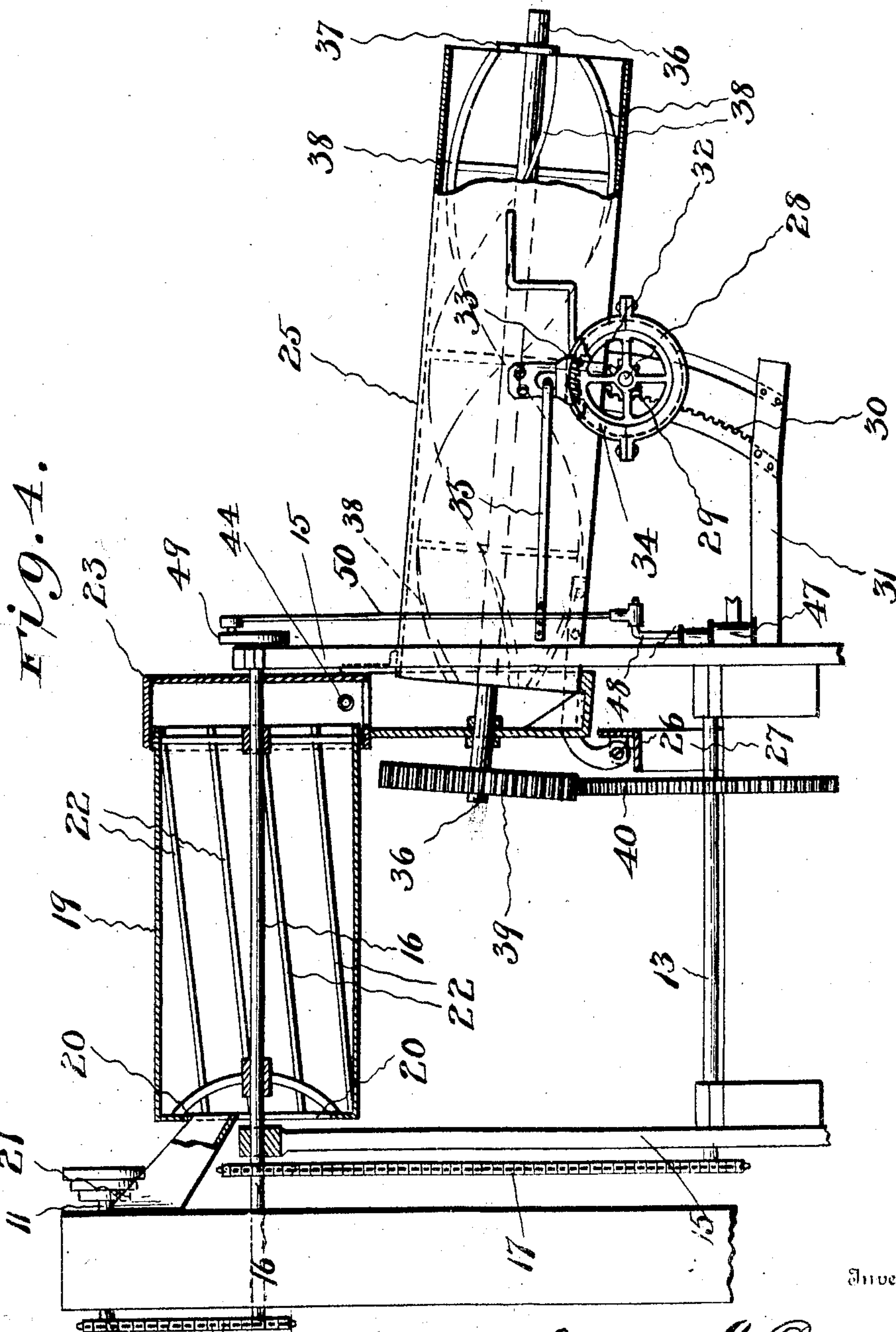
Attorney

A. M. PETERSON.
MORTAR OR CONCRETE MIXER.
APPLICATION FILED JAN. 8, 1909.

940,552.

Patented Nov. 16, 1909.

4 SHEETS—SHEET 4.



Inventor

Witnesses

James V. Blackwood
Charles H. Blackwood

By

Andrew M. Peterson
D. A. Gowrick
Attorney

UNITED STATES PATENT OFFICE.

ANDREW M. PETERSON, OF GOODHUE, MINNESOTA.

MORTAR OR CONCRETE MIXER.

940,552.

Specification of Letters Patent. Patented Nov. 16, 1909.

Application filed January 8, 1909. Serial No. 471,265.

To all whom it may concern:

Be it known that I, ANDREW M. PETERSON, a citizen of the United States, residing at Goodhue, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Mortar or Concrete Mixers, of which the following is a specification:

My invention relates to machines for mixing mortar, concrete, etc., and has for its objects the provision of a machine provided with means for regulating the relative proportions of the sand and cement delivered to the mixing device, the provision of a mixing drum in which the sand and cement are first thoroughly mixed in their dry state, and another mixing drum in which the sand and cement are mixed with water, the latter drum being adjustably mounted so that the consistency of the concrete may be regulated by causing the mixture to pass through the drum where mixed with water rapidly or slowly. The entire machine is mounted on a wheeled truck and the machine and truck are actuated by a motor mounted on the truck.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a view in elevation of the front of the machine, Fig. 2, a view of the side of the machine on which is mounted the sand and cement feeding apparatus, Fig. 3, a view of the opposite or delivery side of the machine some of the parts being omitted, and Fig. 4, a vertical, longitudinal sectional view of the two mixing drums some of the parts being omitted.

In the drawings similar reference characters indicate corresponding parts in all of the views.

1 indicates the truck on which is mounted my improved concrete mixer, and 2 any suitable motor for actuating the truck and the machine.

3 indicates the main drive shaft journaled on truck 1 and driven by motor 2.

4 indicates an elevator for sand and 5 an elevator for cement supplied by hoppers 6 and 7 respectively, the sand hopper 6 having a shaking screen 8 over it through which the sand passes into the hopper, 8^a indicating the bearing rods for the screen. The elevator aprons are actuated by the shafts 9 and 10 having stepped cone pulleys 11 and

12 thereon so that the relative speed of the two aprons can be regulated as desired.

13 indicates a shaft journaled on truck 1 and actuated from shaft 3 by means of gearing 14.

15 indicates frames supported by truck 1 on which is journaled shaft 16, and 17 indicates chain and sprocket gearing connecting shafts 13 and 16.

18 indicates chain and sprocket gearing connecting shaft 16 and shaft 9 or 10 as desired to drive the elevator aprons.

19 indicates a cylindrical drum secured to shaft 16 and rotated thereby. Drum 19 is fed with the sand and cement through a central opening 20 by means of a spout 21 communicating with elevators 4 and 5, and are agitated and mixed while still dry by means of projections 22 on the inner surface of the drum which are spirally arranged so as to actuate the mixture toward the opposite end from the spout 21, said end being open and fitted into a stationary cup-shaped cover 23 secured to upright frame 15 and having a spout 24 delivering into the wet mixing drum 25. Wet mixing drum 25 is non-rotatable and has its rear end pivotally mounted by means of hinges 26 to arched rod 27 secured to the truck 1 while its front end is supported on a shaft 28 having gear wheels 29 secured thereto and meshing with segmental rack bars 30 secured to bracket 31.

32 indicates a worm wheel secured to shaft 28 and 33 a worm shaft journaled in an annular casing 34 mounted on said worm wheel 32, said casing being held from rotation on the wheel 32 by means of a rod 35 secured to said casing and to the wet mixing drum 25.

36 indicates a shaft journaled in the rear end of drum 25 and on rod 37 secured to the front end of the drum and having stirring paddles or blades 38 secured thereto, said paddles being spirally arranged so as to gradually push the mixed concrete toward the delivery end of the drum the rapidity with which this is accomplished being secured by the inclination of said drum regulated by the position of shaft 28 adjusted by worm wheel 32 and worm shaft 33.

39 indicates a gear wheel secured to shaft 36 that meshes with gear wheel 40 secured to shaft 13, said gear wheels being so constructed that they are always in mesh whatever be the position of drum 25.

41 indicates a water tank mounted on platform 42, supported on truck 1, to supply water to the motor 2, pipe 43 being connected with said tank, while pipe 44 connects pipe 43 and spout 24.

45 indicates a valve in pipe 43 adjacent to tank 41 and 46 a valve in pipe 44 adjacent to spout 24.

47 indicates a force pump connected with pipe 43 having its plunger 48 connected with wheel 49 secured to shaft 16 by means of pitman 50. It will be understood that the tank 41 may be filled by opening valve 45 either with or without closing valve 46.

51 indicates a hose connection tapped into pipe 44 to flush the interior of drum 25 to clean it of concrete, when closing down at the end of the day or other period, to prevent it from hardening in the drum.

Having thus described my invention what I claim is—

1. In a mortar or concrete mixer, a non-rotatable drum having one end pivotally supported, segmental racks suitably secured, a shaft journaled on said drum, pinions secured to said shaft and meshing with said racks, and means to rotate said shaft to adjust the inclination of said drum.

2. In a mortar or concrete mixer, a non-rotatable drum having one end pivotally supported, segmental racks suitably secured, a shaft journaled on said drum, pinions secured to said shaft and meshing with said segmental racks, a worm wheel secured to the shaft, a casing inclosing said wheel, and a worm shaft journaled in said casing and meshing with said worm wheel, said casing being held from rotation on the worm wheel.

3. A mortar or concrete mixer comprising a rotatable drum, endless belt conveyers for the dry ingredients of the mortar or con-

crete emptying into said drum, means to vary the relative speed of the belt conveyers to regulate the relative quantities of the dry ingredients, a non-rotatable drum positioned to receive the contents of said rotatable drum and pivotally secured at the receiving end, segmental racks suitably secured, a shaft journaled on said drum, pinions secured to said shaft and meshing with said racks, and means to rotate said shaft to adjust the inclination of said drum.

4. A mortar or concrete mixer comprising a rotatable drum having spiral projections on its interior, endless belt conveyers for the dry ingredients of the mortar or concrete emptying into said drum, the driving shafts of said conveyers having oppositely arranged cone pulleys secured thereto, a belt geared to said pulleys, a cap loosely mounted on the delivery end of said rotatable drum and having a spout connected therewith, a non-rotatable drum at the delivery end of said spout, a shaft journaled in said non-rotatable drum and having stirring blades secured thereto, said non-rotatable drum pivotally secured at the delivery end of the spout, a shaft journaled on said non-rotatable drum, segmental racks suitably secured, pinions secured to said shaft and meshing with said segmental racks, a worm wheel secured to the shaft, a casing inclosing said worm wheel, a worm shaft journaled in said casing and meshing with said worm wheel, and a water pipe for supplying water to said non-rotatable drum.

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

ANDREW M. PETERSON.

Witnesses:

FRANK T. O'GORMAN,
MARGUERITE KANN.