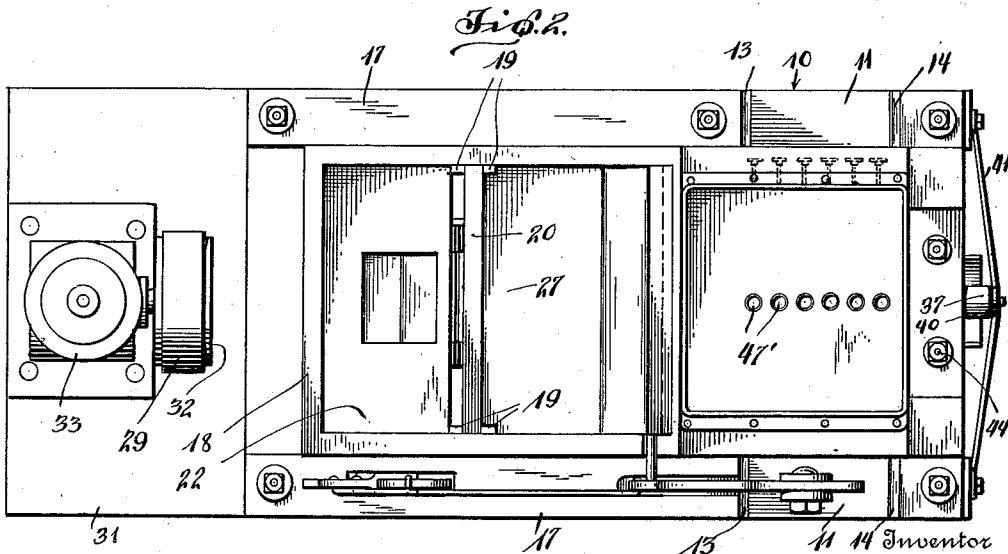
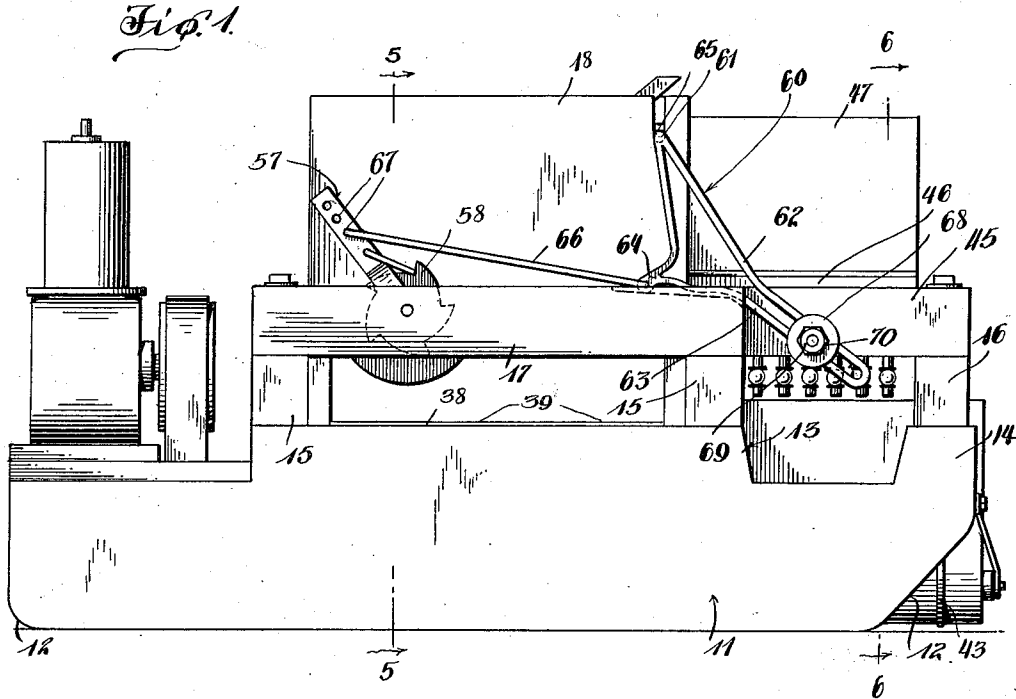


F. BEHRMANN.
FEED REGULATOR.
APPLICATION FILED AUG. 17, 1911.

1,023,411.

Patented Apr. 16, 1912.

3 SHEETS—SHEET 1.



Witnesses
Ernest Crocker

Charles Richardson

By *Charles Richardson*

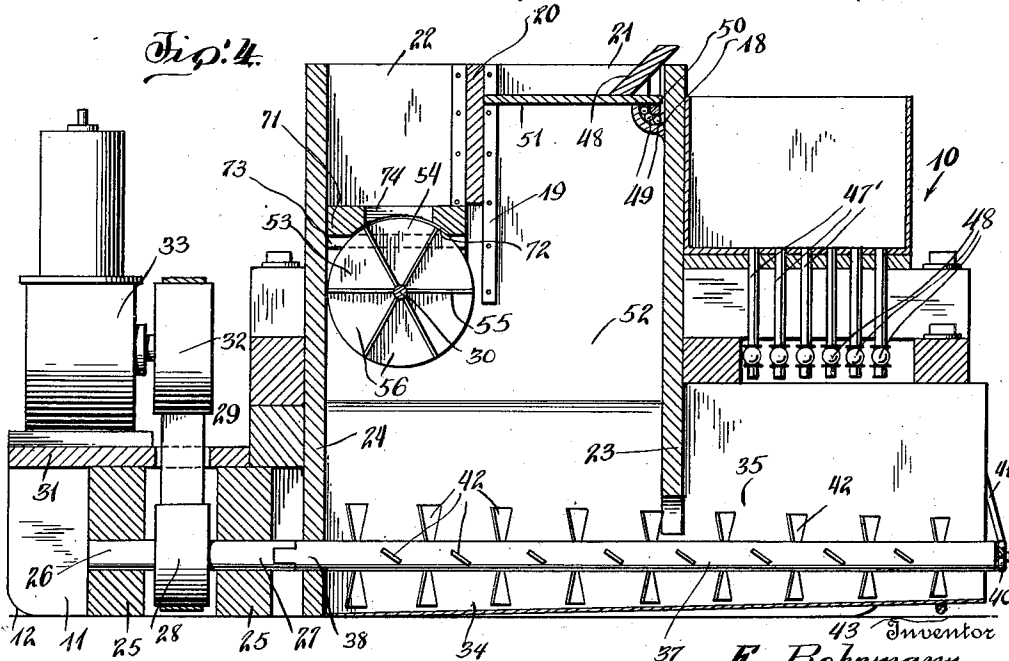
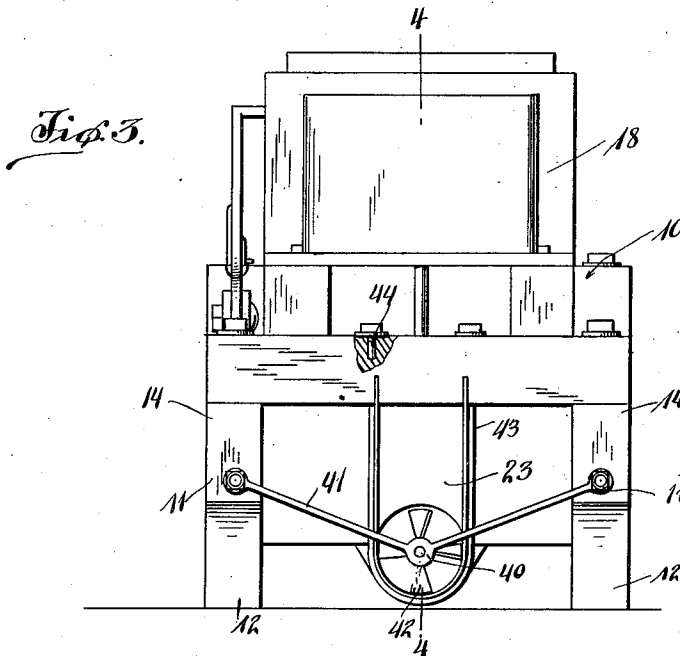
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3 SHEETS-SHEET 2.



Witnesses
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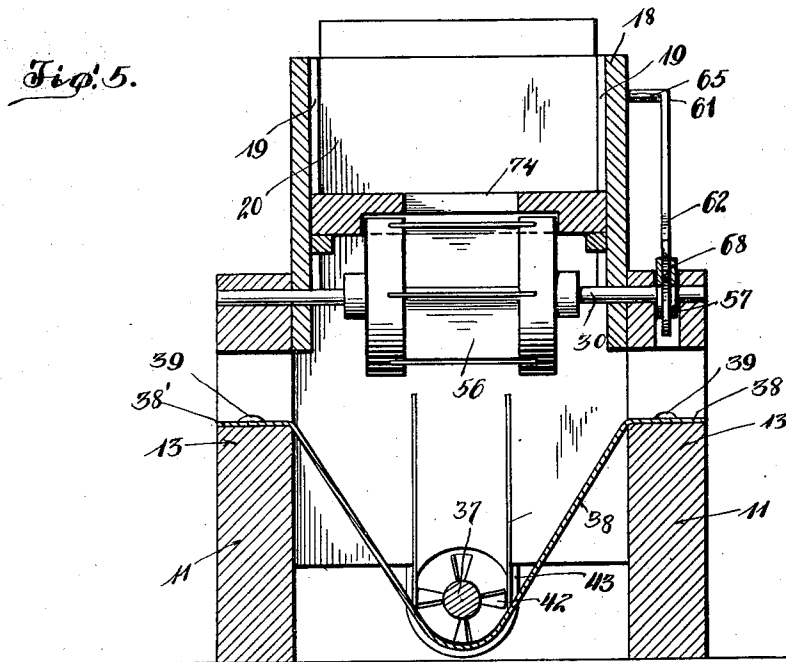
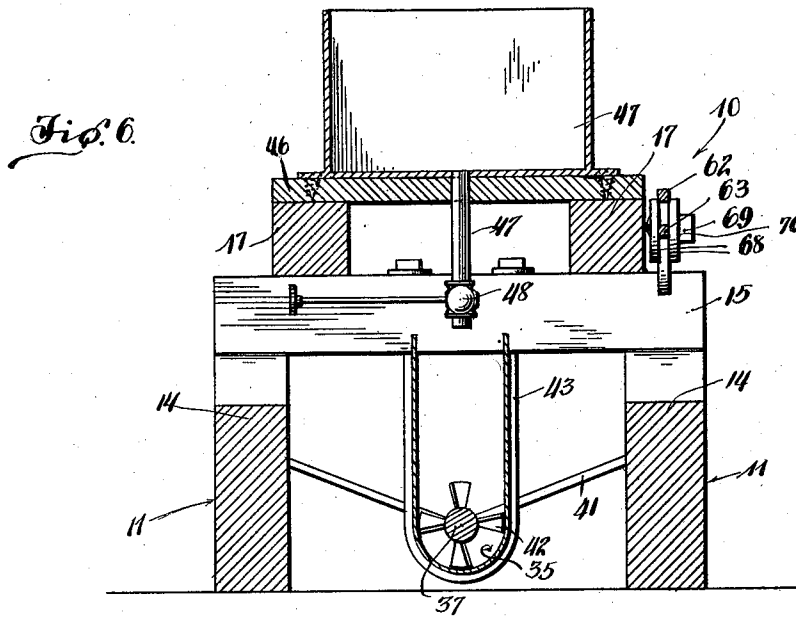
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3 SHEETS--SHEET 3.



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UNITED STATES PATENT OFFICE.

FREDRICH BEHRMANN, OF RIDGEVILLE TOWNSHIP, HENRY COUNTY, OHIO.

FEED-REGULATOR.

1,023,411.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed August 17, 1911. Serial No. 644,649.

To all whom it may concern:

Be it known that I, FREDRICH BEHRMANN, a citizen of the United States, residing in Ridgeville township, in the county of Henry, State of Ohio, have invented certain new and useful Improvements in Feed-Regulators; 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 new and useful improvements in feed regulators for concrete mixers.

15 An object of this invention is the provision of a device such as described which will thoroughly mix the necessary ingredients used in making concrete or the like.

20 A further object of this invention is to improve and simplify devices of this character rendering them comparatively simple and inexpensive to manufacture, reliable and efficient in use and readily operated.

25 With the above and other objects in view this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more particularly described, claimed and illustrated in the accompanying drawings, in which:—

30 Figure 1 is a side elevation of my improved cement mixer. Fig. 2 is a top plan view thereof. Fig. 3 is a front end view thereof. Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 3. Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1, and Fig. 6 is a transverse sectional view taken on the line 6—6 of Fig. 1.

40 Referring to the drawings by character of reference, the numeral 10 designates generally my improved cement mixer which consists of a pair of spaced parallel side runners 11, the opposite lower edges of which are beveled as at 12 to permit the same to be dragged over the ground. The upper edges of the runners 11 are each provided with a long extension 13 and a short extension 14, the former of which are connected at their opposite ends by transversely extending rails 15, while the lower are connected by a transversely extending rail 16. The extensions and rails are preferably of the same height so that their upper edges lie in the same horizontal plane.

The opposite ends of the rails 15 are con-

nected by longitudinal rails 17 which have secured to their inner faces and resting upon the corners of rails 15 a hopper 18. This hopper is provided intermediate its sides with a pair of spaced parallel guides 19 between which is slidably located a transversely extending partition 20 separating the interior of the hopper into two compartments 21 and 22, the former adapted to contain gravel or the like while the latter is arranged for the purpose of receiving cement. The opposite end walls of the hopper extend downward to substantially the lower edges of the runners 11, as clearly illustrated by the numerals 23 and 24, while extending transversely of the runners adjacent the said plate 24 are a pair of bars 25 which support in suitable bearings formed centrally thereof a short shaft 26 provided at one end with a clutch member 27 and having keyed to its intermediate portion between the said bars 25 a pulley 28 over which is passed a belt 29 which extends through a slot 30 formed in a base plate or engine bed 31 secured to the upper edges of the rear of the runners 11. This belt passes over the fly wheel 32 of an engine 33 which is secured to the rear of the said bed plate 31.

85 A mixing trough 34 is secured at one end to the extension 24 of the end of the hopper and extends through the extension 23 of the opposite end of the hopper at which point the said trough is reduced as indicated by the numeral 35, while extending longitudinally through the said trough is a rotatable shaft 37 provided at one end with a clutch member 38 adapted to engage the before mentioned clutch member 27 for the purpose of causing the said shaft to rotate upon the rotation of the shaft 26. The enlarged portion of the trough 34 is bent outwardly at its upper edges as indicated by the numeral 38' and secured by bolts or other suitable fastening means 39, to the upper edges of the extensions 13, thus producing a guideway which causes the contents of the hopper 18 to be directed into the bottom of the trough 34 upon the shaft 37. The outer or forward end of the shaft 37 is secured within a bearing 40 provided with diverging arms 41 which are removably secured to the ends of the runners 11, thus providing a means whereby the said bearing may be removed and the shaft 37 extracted from the trough for cleaning purposes.

The shaft 37 has arranged at intervals

throughout its length radially extending blades 42, each of which is set at an oblique angle with respect to the axis of the shaft 37 for the purpose of agitating the contents of the trough and having a tendency to force the same toward the open end thereof which lies adjacent the bearing 40. A U-shaped tie rod 43 surrounds the trough 34 adjacent its open end and extends through apertures 44 formed in the rail 16 in which apertures it is securely held against displacement by any suitable means.

An inspection of Fig. 3 will show that the transversely extending rails 15 and 16 are slotted to receive the upper edges of the trough 34 which further assists in holding the same against displacement. The rail 16 and the adjacent rail 15 are connected by longitudinal bars 45 to the upper edges of which is secured a supporting plate 46 upon which is mounted a water tank 47 from which water is directed into the trough 34 through the medium of a series of depending tubes 47', each of which is controlled by valves 48, the stems 49 of which project within convenient reach of the operator of the cement mixer.

The compartment 21 has secured to its upper edge a baffle plate 48 beneath which is journaled in suitable ball bearings 49 secured to the opposite sides of the hopper, a shaft 50 which has keyed thereto a hinged closing plate 51 adapted to abut against the lower edge of the baffle plate which holds the same in substantially a horizontal plane in spaced relation to the upper end of the hopper 18.

The lower end of the compartment 22 has journaled therein a shaft 52 upon which is keyed a pocket wheel 53. This said wheel comprises circular end plates 54 connected by radially extending blades 55 thus producing between said plates 54 a series of pockets 56. The shaft 52 has loosely mounted thereon a bifurcated lever 57 between the bifurcated ends of which is located a ratchet wheel 58 which is keyed to the shaft 52 and adapted to be so connected with the lever 57 by a link 59 as to cause the rotation of the shaft 52 and pocket wheel 53 keyed thereon upon the swinging movement of the said lever 57.

A hand lever 60 is secured to one end of the shaft 50 and is preferably in skeleton formation and formed from a single bar of metal secured as indicated by the numeral 61 to the shaft 50. The bar is then curved toward the end of the tank 47 as indicated by the numeral 62 and then bent back upon itself as indicated by the numeral 63 to a point spaced a slight distance from the shaft 50 at which point the material is then twisted to form an eye 64, from which eye the said material is then extended to surround the lever 50 as indicated by the nu-

meral 65. A link 66 connects the eye 64 with one of a series of apertures 67 formed transversely of the upper end of the lever 57. A pair of disks 68 are located upon opposite sides of the strands 62 and 63 and are connected by means of a bolt 69 which passes between the said strands and is held against displacement by a locking nut 70.

In order to limit the quantity of cement fed into the pocket wheel a platform 71 provided with a lower concaved face 72 into which is extended the upper end of the wheel 53 is supported on suitable rails 73 above the pocket wheel. This member 71 is provided with a longitudinally extending slot 74 through which the cement or the like contained within the hopper must pass before entering the pockets of the wheel.

The operation of the device is as follows: The engine is first set in motion which causes the shaft 37 to rotate and the blades 42 to revolve. A quantity of cement and gravel is then placed into the different compartments of the hopper and as the lever 60 is operated the pocket wheel will be slowly rotated and the hinged plate 51 moved upwardly and downwardly thus feeding the contents of the hopper into the trough from which the same will be forced thoroughly mixed out through the open end thereof into a suitable receptacle not shown.

From the foregoing disclosures taken in connection with the accompanying drawings it will be manifest that a cement mixer of the nature described is provided for which will fulfill all the necessary requirements of such a device.

Having thus particularly described this invention, what I claim as new and desire to obtain by Letters Patent, is:

1. The combination with a hopper, of a partition located therein, and dividing the same into a pair of compartments, a hinged plate closing the lower end of one of said compartments, a wheel journaled in the lower end of the other of said compartments, a retarding plate located in the compartment above the wheel, and a lever for simultaneously rotating the wheel and tilting the plate.

2. The combination in a device such as described of a hopper, a partition located within the hopper and dividing the same into compartments, a plate hinged to one end of one compartment and closing the same, a shaft supporting said plate, a lever keyed to said shaft, a feed wheel journaled in the other of said compartments, a retarding plate located above the said feed wheel, and means operatively connecting the feed wheel with the lever for rotating the same upon the operation of the plate.

3. The combination in a device such as described with a hopper, a partition extending through said hopper and dividing the

same into two compartments, a shaft jour-
naled transversely of one compartment, a
plate secured to said shaft and closing said
compartment, a lever keyed to the shaft, a
5 feed wheel journaled transversely of the
other compartment, a retarding plate lo-
cated above the feed wheel and formed with
a slot, a ratchet wheel keyed to the feed
wheel, and means operatively connecting
10 the ratchet wheel with the lever for oper-
ating the feed wheel upon the operation of
the plate.

4. The combination in a device such as
described, of a hopper, a transversely ex-
15 tending partition located within said hop-
per and dividing the same into two com-
partments, a shaft journaled transversely of

one compartment adjacent one end thereof,
a plate carried by said shaft, a lever keyed
to the shaft, a feed wheel journaled in the 20
other compartment, a shaft supporting said
feed wheel, a ratchet wheel keyed to the
shaft, a lever secured to the shaft, a pawl
carried by the lever engaging the ratchet
wheel and a link connecting the second mem- 25
tioned lever substantially as and for the
purposes set forth.

In testimony whereof, I affix my signa-
ture, in presence of two witnesses.

FREDRICH BEHRMANN.

Witnesses:

RICHARD CONWAY,
MARY CONWAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
