No. 863,775. PATENTED AUG. 20, 1907.

F. W. BLAKESLEE.

CONCRETE MIXER.

APPLICATION FILED DEC. 23, 1904.

2 SHEETS—SHEET 1.

FIG. 1.

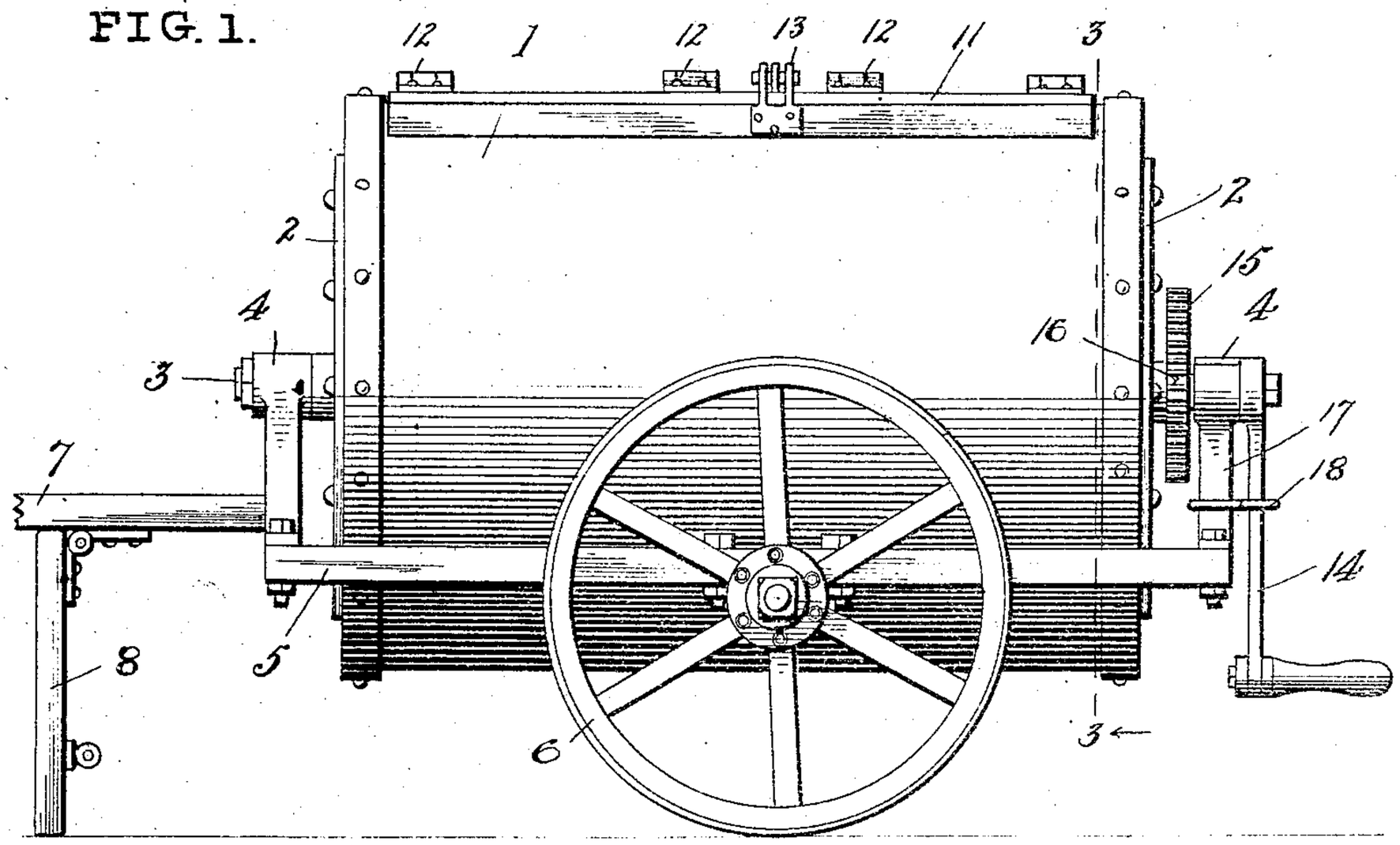
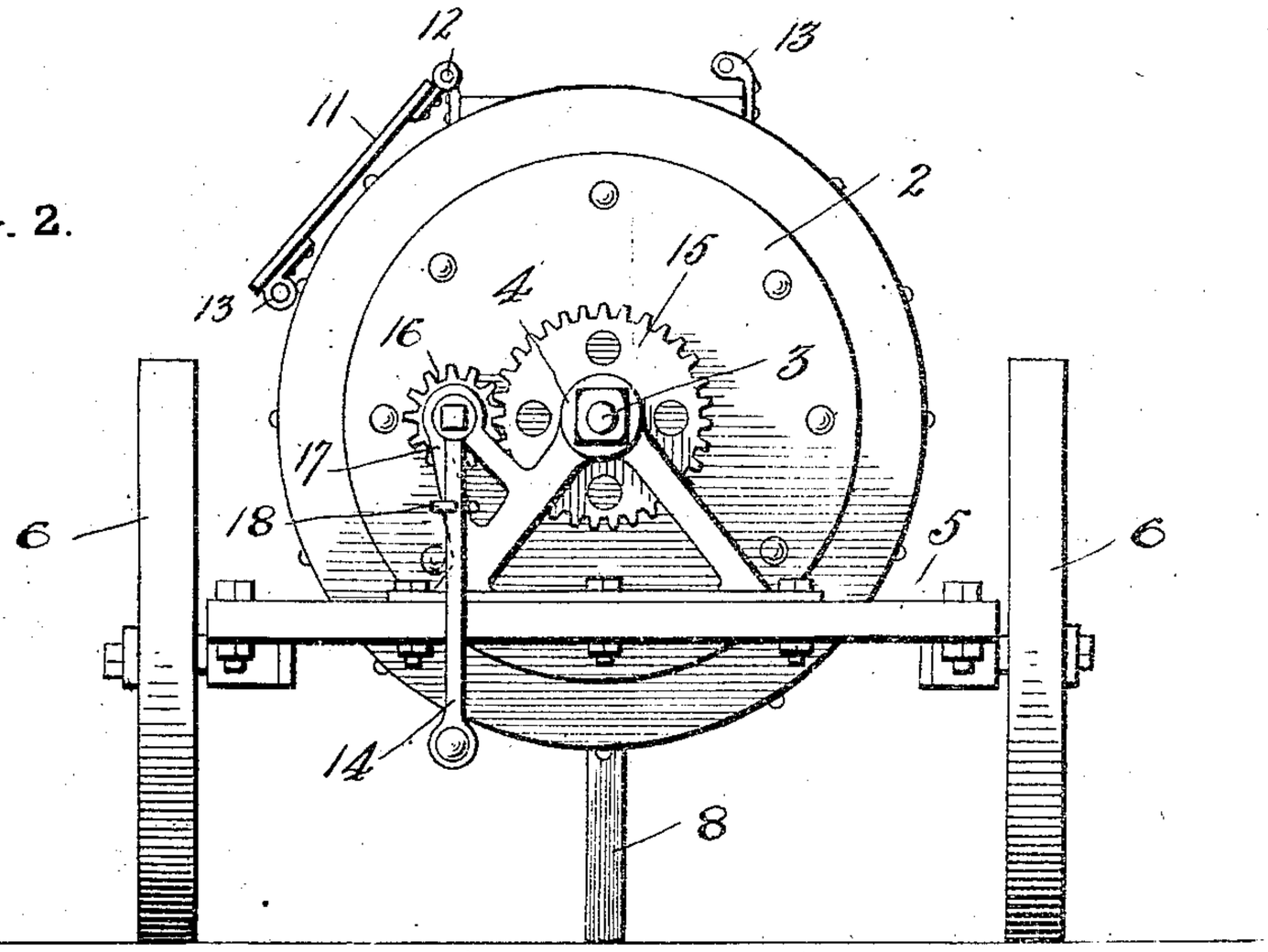


FIG. 2.



Witnesses
Chas. K. Davis.
L. L. Morrill

Inventor
Frank W. Blakeslee,
By Shipman & Parker
Attorneys

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2 SHEETS—SHEET 2.

FIG. 3.

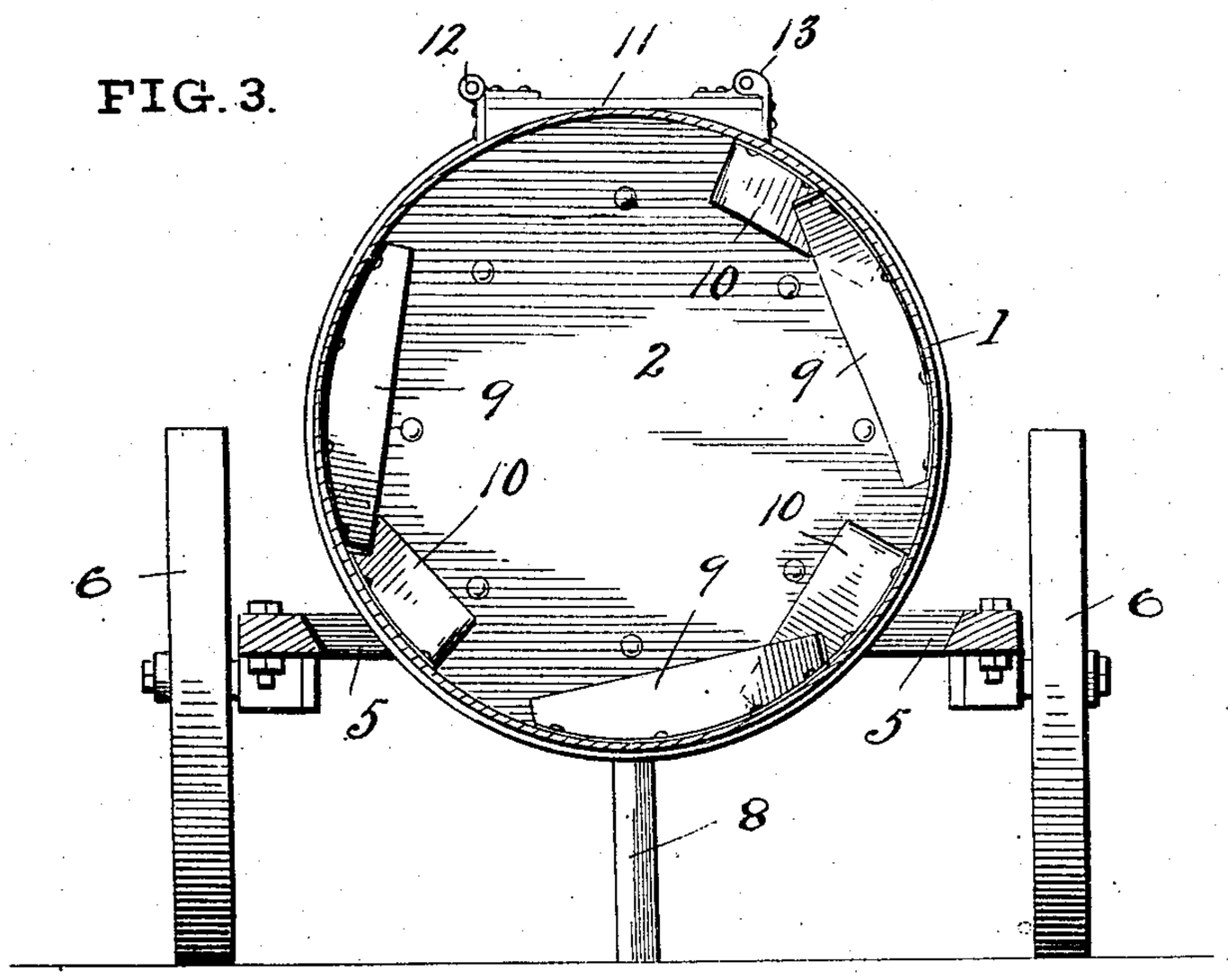
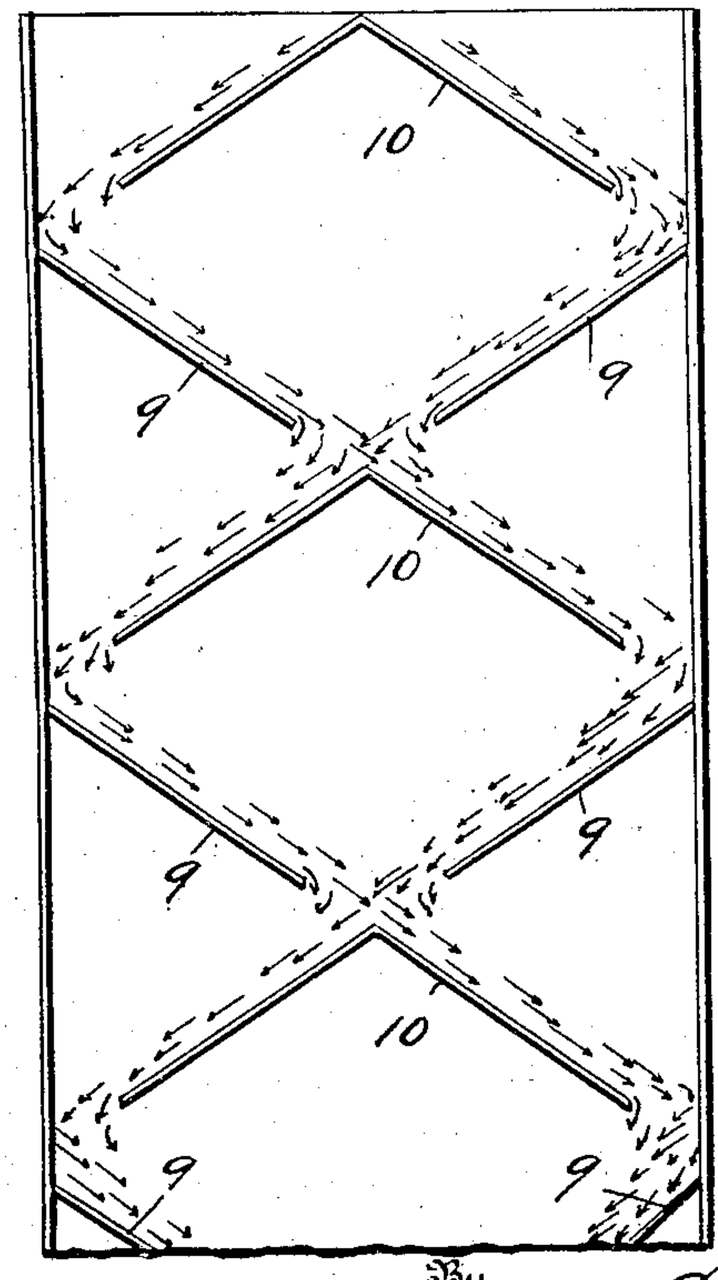


FIG. 4.



Witnesses

Chas. K. Davies.

L. L. Morrill.

Inventor

Frank W. Blakeslee,

By Shepherd & Parker

Attorneys

UNITED STATES PATENT OFFICE.

FRANK W. BLAKESLEE, OF ASHTABULA, OHIO.

CONCRETE-MIXER.

No. 863,775. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed December 22, 1904. Serial No. 237,992.

To all whom it may concern:

Be it known that I, FRANK W. BLAKESLEE, a citizen of the United States, residing at Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Concrete-Mixers, of which the following is a specification.

My invention relates to concrete mixers and has for its object to provide a device which will produce the maximum admixture with a minimum expenditure of labor.

The principal object of my invention is to produce a concrete mixer especially adapted for mixing small quantities of material or for mixing material where the demand though continuous requires but a limited supply.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described, shown in the accompanying drawings and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size and minor details may be made, within the scope of the claims, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a view of my improved concrete mixer in side elevation. Fig. 2 is a view in end elevation of my improved concrete mixer. Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a developed plan view on a reduced scale of the inner peripheral surface of the mixer, with parts broken away, showing the relative arrangement of the plates constituting the baffling wing, and which aids in the thorough admixture of the ingredients upon the rotation of the casing.

Like characters of reference designate corresponding parts throughout the several views.

In its preferred embodiment, my improved concrete mixer consists of a cylindrical hollow casing 1, with its opposite ends closed by the heads 2. The casing 1 is mounted to rotate upon trunnions 3, disposed centrally of the head 2, and journaled in bearings 4, mounted upon a frame 5. For convenience of transportation, the mixer may be mounted upon wheels 6, secured to frame 5, and provided with any convenient means for attaching a motive power as the tongue 7, and to which a leg 8, may be attached to hold the mixer in an operative position.

Rigidly secured to the inner peripheral surface of the casing are a series of pairs of baffle or guide plates 9 extending from the ends or heads 2 in an oblique direction, but terminating at a point a short distance from an approximately central line upon the inner peripheral surface of the casing and in the direction of its longitudinal dimension as illustrated in Fig. 4. A second series of baffle or guide plates 10 are rigidly secured to the inner peripheral surface of the casing, the said plates alternating with each pair of baffle or guide plates 9 as shown in Fig. 4. The plates 10 converge inwardly to form conjointly an angular baffling wing and the meeting ends thereof present their angle in reëntrant disposition in the space left between the inwardly disposed ends of the plates 9, said angle being located upon a line approximately central of the inner peripheral surface of the casing and in the direction of its longitudinal dimension and the wings extending obliquely therefrom toward but stopping short of the ends or heads 2 of said casing. Each of the baffle plates 9 are preferably in alinement with one wing of the baffle plates 10, but separated therefrom as shown.

To permit the introduction of material into the casing, an opening in one side is provided and a closure 11 secured in any desired operative manner thereto as by the hinges 12 and held in a closed position by any approved fastening as 13.

To rotate the casing, a crank-arm 14 may be provided secured directly to one of the trunnions 3 or through the medium of gears 15 and 16 and mounted in a bracket 17. Any approved device for holding the casing in a desired position may be applied as the catch 18.

The operation of my improved concrete mixer is as follows: With the rotating casing disposed as shown, the closure 11 may be opened as shown in Fig. 2 and the material to be mixed, may be introduced into the casing. The closure 11 may then be closed and the casing rotated by the manipulation of the crank 14. The rotation of the casing 1 will cause the material to be thrown as indicated by the arrows in Fig. 4 outwardly from the middle and towards and against the ends 2 and the baffle-plate 9. The baffle-plates 9 will then throw the material toward the middle from both ends and to and upon the angularly shaped baffle-plate 10 producing thereby the desired admixture. The throwing of the material from the ends toward the middle, will cause the material from either end to cross over and through the material from the other end, thus producing a mixing of great efficiency. When the material has been sufficiently mixed, the catch 13 may be loosened and the casing rotated to a point bringing the closure 11 to the under side when the contained material will drop out by its own weight and the mixer be in condition to receive another charge.

For certain purposes, it is found desirable to mix the several dry ingredients without the addition of water while in other cases, it is found desirable to add the water before mixing and mix the materials in a wet state. It is obvious that my improved mixer will mix equally well materials in either condition.

While I have shown the casing 1 as cylindrical in form, it is obvious that the said casing may be enlarged at its middle in the form of a barrel and that the said casing may be made from any desired material as metal or wood and that other changes may be made

from the form shown and described without departing from the spirit of my invention or the scope of the claims.

Having fully described my invention I claim:

1. A concrete mixer comprising a rotatably mounted cylindrical casing having two series of alternately arranged baffle plates disposed upon the inner peripheral surface of the casing, the plates of one series extending from the ends of the casing in an oblique direction, but terminating at a point a short distance from an approximately central line upon the inner peripheral surface of the casing and in the direction of its longitudinal dimension and the plates of the other series comprising angularly disposed wings, the angle formed by the said wings being located upon an approximately central line following the direction of the longitudinal dimension of the peripheral surface of the casing and the said wings extending therefrom obliquely toward but stopping short of the ends of the said casing.

2. A concrete mixer comprising a hollow cylindrical casing mounted for rotation about its longitudinal axis, V-shape baffle or guide plates mounted transversely on the inner peripheral surface of the said casing and extending in an oblique direction from an approximately central line following the direction of the longitudinal dimension of the inner peripheral surface of the casing, but terminating a short distance from the ends of said casing and oppositely arranged V-shaped baffle or guide plates extending obliquely from the ends of the said casing adjacent to but terminating a short distance from said approximately central line.

3. A concrete mixer comprising a rotatably mounted cylindrical casing, having two series of alternately arranged baffle plates disposed upon the inner peripheral surface of the casing, the plates of one series extending from the ends of the casing in an oblique direction but terminating at a point a short distance from an approximately central line upon the inner peripheral surface of the casing and in the direction of its longitudinal dimension, the said plates being arranged to deflect material contained within the casing toward the said central line upon the rotation of the casing in one direction and the plates of the other series extending from the said central line oppositely and obliquely toward but stopping short of the ends of the casing, said plates being arranged to deflect material contained within the casing toward the said ends upon the rotation of the casing in the same direction.

4. A concrete mixer comprising a rotatably mounted casing, a series of baffling wings extending inwardly from the ends of said casing, the ends of said wings being in spaced relation, so that a passage is left therebetween, a second series of wings arranged severally in alternate relation to said first named series, the wings of said second series, having their free ends terminating a short distance from the ends of the casing, so that a passage is left between said wings and said ends of the casing, the wings of both of said series severally having the uninterrupted spaces therebetween in their alternate relation and in communication with said passages.

5. A concrete mixer comprising a rotatably mounted casing, a series of baffling wings extending inwardly from the ends of said casing, the ends of said wings, being in spaced relation, so that a passage is left thereLetween, a second series of angular wings arranged severally in alternate relation to said first named series, the wings of said second series presenting their angle to said passage, and having their free ends terminating a short distance from the ends of the casing, so that a passage is left between said wings and said ends of the casing, said wings having uninterrupted spaces therebetween in their alternate relation, said spaces being in communication with both of said passages, whereby said passages and spaces cooperate to form an uninterrupted tortuous passage, extending peripherally throughout the inner surface of the casing.

6. A concrete mixer comprising a rotatably mounted cylindrical casing and baffling wings carried upon the inner circumferential surface of said casing, said wings being so arranged as to afford on each side of the casing an uninterrupted zigzag passage conformable with and having uninterrupted communication with the opposing passage at points between the adjacent wings and along a line, peripherally central of the casing.

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

FRANK W. BLAKESLEE.

Witnesses:
E. P. HALL,
H. W. HARRIS.