

P. A. KOEHRING.
CONCRETE MIXING DRUM.
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899,415.

Patented Sept. 22, 1908.

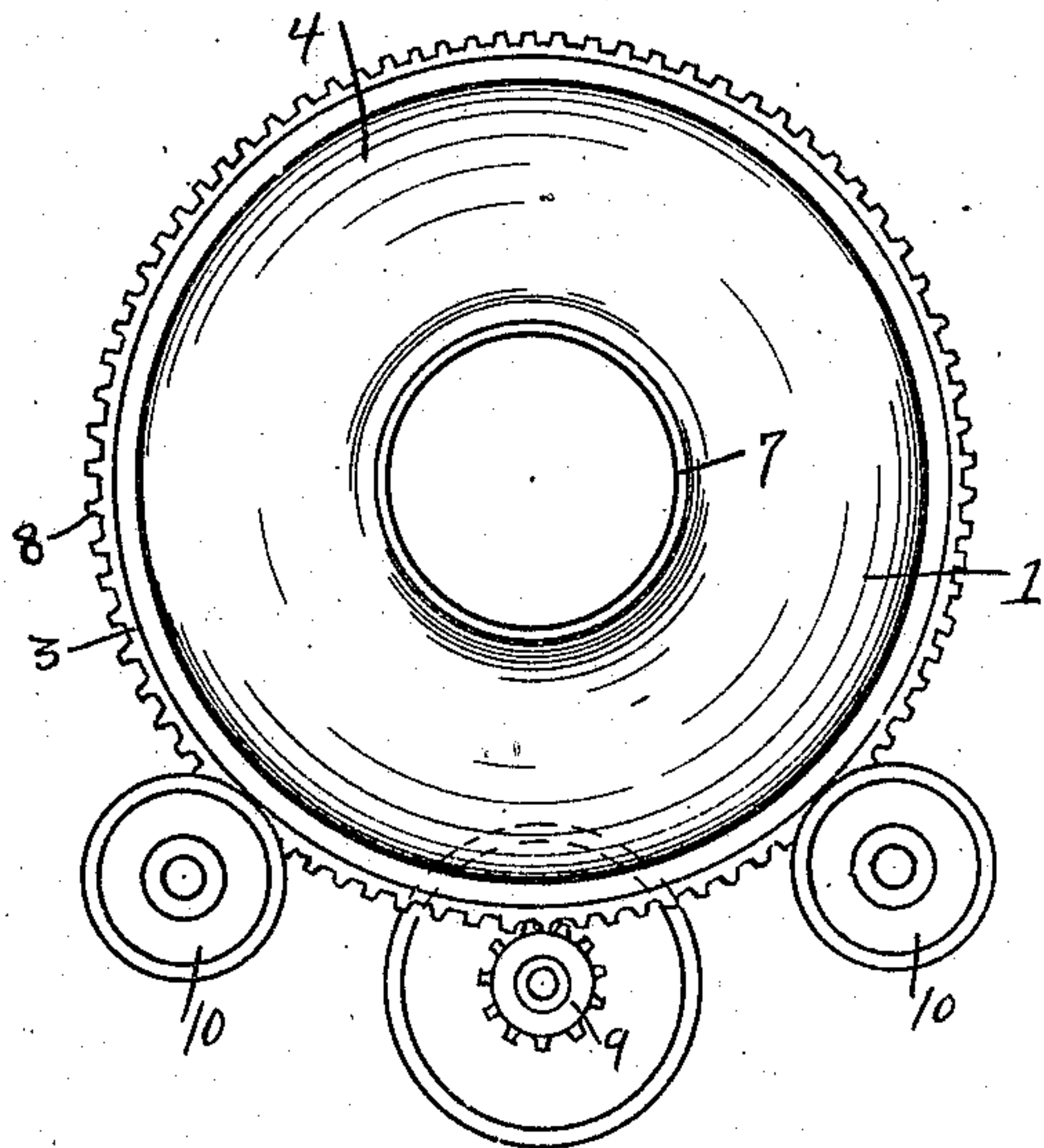


Fig. 1.

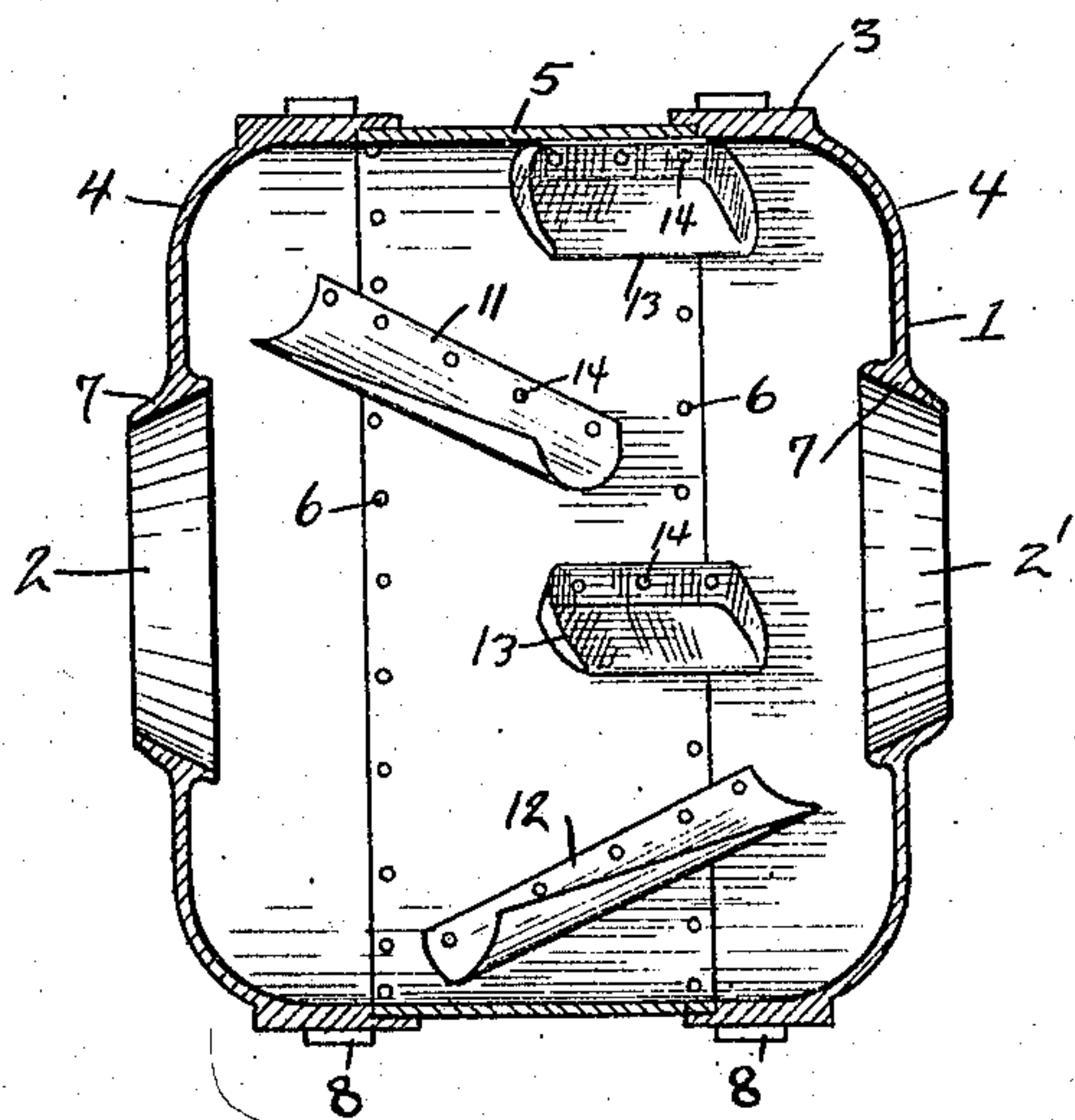


Fig. 2.

WITNESSES:

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PHILIP A. KOEHRING, OF MILWAUKEE, WISCONSIN.

CONCRETE-MIXING DRUM.

No. 899,415.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed March 16, 1908. Serial No. 421,512.

To all whom it may concern:

Be it known that I, PHILIP A. KOEHRING, a citizen of the United States, residing at the city of Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Concrete - Mixing Drums, of which the following is a specification.

My invention relates to improvements in concrete mixing drums and it pertains more especially among other things,—first, to the construction of the heads of the drum having vertical end portions open at their centers, horizontal cylindrical portions terminating at the periphery of the drum and curved or rounded corner portions formed integrally with said end and cylindrical portions. Second,—to the cylindrical central member interposed between and connected at its respective ends with the cylindrical portions of said heads, and third,—to the construction and relative arrangement of the series of inclined mixing blades and horizontally arranged buckets, which buckets are interposed between said blades.

The object of my invention is not only to simplify the device and reduce the cost of construction, but also to provide a mixer of such a construction that the concrete will not have a tendency to accumulate in the corners between the vertical end and the horizontal cylindrical portions of the drum, but instead will be caused by the rounded or curved shape of the heads to flow toward the center of the drum where it will be acted upon by the mixing blades and buckets, whereby the concrete will become more uniformly mixed together.

The construction of my invention is explained by reference to the accompanying drawings in which,—

Figure 1 represents an end view thereof, and Fig. 2 a longitudinal vertical section, drawn at right angles to that shown in Fig. 1.

Like parts are identified by the same reference characters in both views.

The respective heads are alike in construction, and they each comprise the vertical central portion 1, respectively provided with an opening 2 and 2', horizontal portions 3 and a curved or rounded corner portion 4 by which the vertical and horizontal portions are connected together.

5 represents a horizontal cylindrical member which is connected at its respective ends

to the respective heads by the annular series of rivets, 6, 6. Each of the heads is provided with an inwardly diverging collar 7 and an annular series of cog-teeth 8 by which motion is communicated to the drum from the driving gear 9 in the ordinary manner, while the drum is preferably supported at its respective sides from the rollers 10.

It will be understood that concrete is conducted to the drum through the opening 2 and discharged through the opening 2' and that the concrete which has been placed in the drum is mixed as the drum is revolved by the two series of oppositely inclined blades 11 and 12, and series of buckets 13 which buckets are interposed between said blades. The blades and buckets are respectively secured to the inner walls of the drum by a plurality of rivets 14. The relative arrangement of such blades and buckets to each other is such that the concrete which is raised by the series of blades 11 is discharged into the buckets 13 below the lower end of such blades, while the concrete which is discharged from the buckets 13 will fall upon the blades 12 of the other series and will be discharged therefrom back toward the inlet end of the drum when it is again and continuously carried up by said series of blades 11 and in like manner discharged into said buckets and the other series of blades, whereby the concrete will be thrown alternately forwardly and backwardly between the respective heads of the drum and thereby become thoroughly mixed, while the curved inwardly converging heads will cause such concrete as might otherwise accumulate and remain near the respective ends of the drum to flow toward the center where it is acted upon as stated by said blades and buckets.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is,—

1. In a concrete mixing drum, the combination with a cylindrical central member of two heads each comprising a vertical end portion open at its center, an annular flange surrounding said opening, diverging inwardly from the exterior, a horizontal annular portion and an intermediate curved portion all formed integrally, means for connecting said integrally formed heads with said central cylindrical member, means for rev-
olubly supporting said drum from its pe-

riphery and an annular series of mixing blades and buckets fixed to the inner wall of the drum.

2. In a concrete mixing drum, the combination of a cylindrical central member, two heads each comprising a vertical end portion open at its center, a horizontal annular portion and an intermediate curved portion formed integrally, means for rigidly connecting said central cylindrical member and heads together; two annular series of mixing blades secured to the inner walls of the drum, the blades of one series being inclined in the opposite direction to those of the other series, and at an angle to the longitudinal axis of the drum, an annular series of horizontally arranged buckets located between the respective blades of said series and means for

rigidly securing said blades and buckets to the inner walls of said drum, the heads of said drum being adapted by their curved shape to cause the concrete therein to flow towards the center of said drum within the lines described by the circular movement of said blades, said blades and buckets being adapted as said drum is revolved to alternately throw the concrete forwardly and backwardly between said heads, all substantially as and for the purpose specified.

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

PHILIP A. KOEHRING.

Witnesses:

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