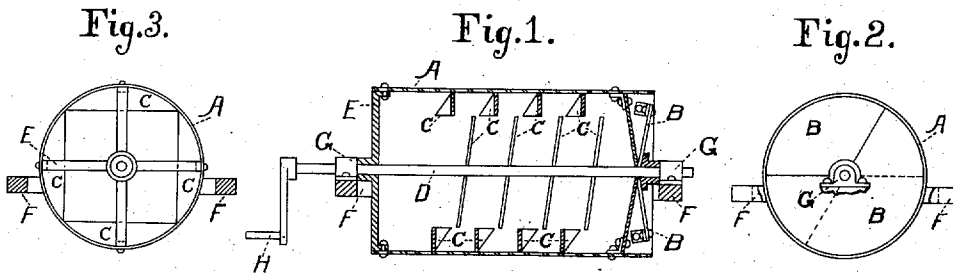


H. M. WHITCOMB.
CONCRETE MIXING MACHINE.
APPLICATION FILED APR. 1, 1911.

1,017,720.

Patented Feb. 20, 1912.



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HARRIS MORGAN WHITCOMB, OF ALBANY, WISCONSIN.

CONCRETE-MIXING MACHINE.

1,017,720.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRIS MORGAN WHITCOMB, a citizen of the United States, residing at Albany, in the county of Green and State of Wisconsin, have invented certain new and useful Improvements in Concrete-Mixing Machines, of which the following is a specification.

My invention relates to improvements in concrete mixing machines, in which a revolvable cylindrical outer case is provided with internal rigidly attached plates for stirring the contents and an interior end device that will retain the material to be mixed when the cylinder is rotated to the right and discharge it when the cylinder is rotated to the left. And the objects of my improvement are to construct a machine that will mix concrete by manual power, faster and better than by any other hand method, and also to have the cost of the machine within the reach of the small user or for private use. To accomplish these objects I employ the mechanism illustrated in the accompanying drawing in which:

Figure 1, is a vertical longitudinal section through the mixer and the frame. Fig. 2, is a right hand or lower end of the cylinder with the frame and shaft removed, showing the shape of the end plates B. B., the full lines representing one of them and the dotted lines the other one. Fig. 3, is a view of the left or upper end of the device showing the spider which connects the cylinder with the shaft and the plates as they appear from that end. The opposite end plates B. B., are supposed to be removed in this view.

Similar letters refer to similar parts throughout the several views.

The steel cylindrical shell A, the spider E, the plates C, the end plates B. B., and the shaft D, all secured together and said shaft being rotatively mounted in the boxes G on said frame and provided with the crank H, constitute my machine.

The spider E, has four radial arms integral with a hub which is bored to fit and is pinned onto the shaft B, adjacent one of its ends. The outer ends of the arms are provided with lugs inclined to the right and adapted to fit the inner diameter of the cylinder A, and are riveted to the same. Each of the mixer plates C, which are spaced from each other, is segmental in form and is disposed at an angle of approximately ten

degrees inclining toward one end of the cylinder and are secured to the same by angle plates and rivets, as shown in Fig. 3. They are disposed in a manner that their cords or inner edges form a right angle to each other, but that is not important, neither is it necessary that they be equally spaced in relation to each other, as they are only intended to gently stir the contents of the cylinder as in batch mixing of dry material which is often desirable. The arrangement of said plates is that of a screw so as to gradually advance the material in the cylinder as it is revolved.

The lower end plates B. B., are adapted to fit the inside of the shell A, and are disks of the proper size made from sheet steel with a portion removed from one side equal to one hundred and twenty degrees of their circumference, the part removed not extending to the center, but leaving a circular central portion sufficient to fasten to a central hub for securing them to the shaft D. The sector removed is cut on radial lines as shown in Fig. 2. In locating the plates they are placed contiguous each other at their centers and spread apart at their outer ends leaving a space between them, in relation to the shell, the amount of space depending upon whether they are intended to handle coarse or fine material. They are secured to the shell by angle plates and rivets as shown in Fig. 1, and disposed in the direction of a right hand screw.

In using the machine it should be placed on any convenient support with the lower ends from ten to fifteen degrees below the upper or crank end. It is then partially filled through the openings between the spokes of the spider E, and rotated to the right by means of the crank H. It will be observed that it will require but little power to run it for the reason that the contents are but slightly elevated, only gently stirred by the segmental shelves as their central portion passes through it and it slides downward by gravitation where their ends become tangent with the shell. To discharge the contents, turn the crank H, to the left, thereby forcing the mixture through the spaces between the end plate B. B.

Having thus described my invention, I claim as new and my own the following:

1. A mixing machine comprising a shell or drum having overlapping plates at one end with openings between them, a rotatable

shaft with a spider therein to which one end of said drum is secured, said plates being also secured to a hub on said shaft. bearings for said shaft, and a plurality of
5 inclined segmental plates secured to the inner face of said drum; said plates being spaced and the plates of adjacent series being staggered.

2. A mixing machine comprising a shell.
10 a shaft on which shell is secured to said shaft and shell at one end of the latter and

constituting the discharge end wall of said shell, and mixing members in said shell adapted both to mix material and to advance same to the discharge end of said 15 shell.

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

HARRIS MORGAN WHITCOMB.

Witnesses:

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