R. G. LOWE.

POWER AGITATOR.

APPLICATION FILED AUG. 5, 1920.

1,392,345. Patented Oct. 4, 1921.

Fig. 1

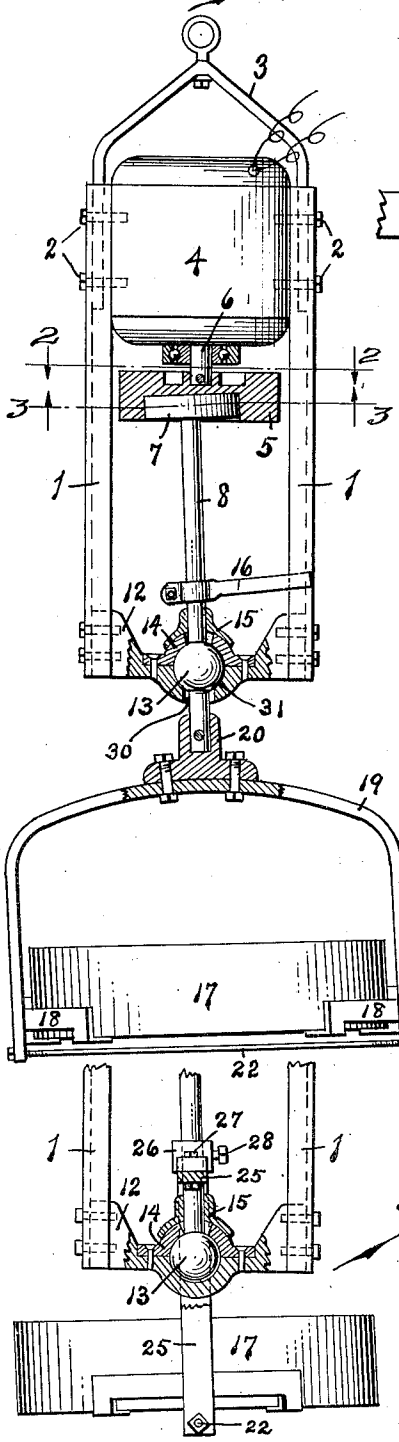


Fig. 2

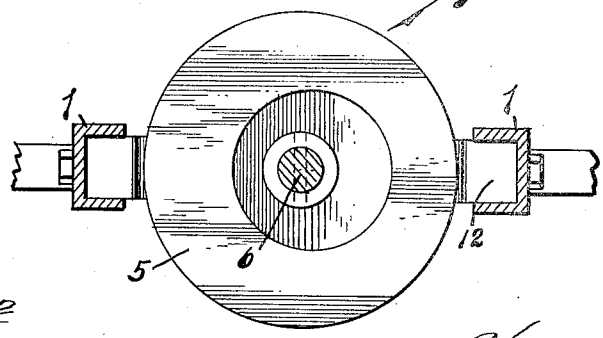
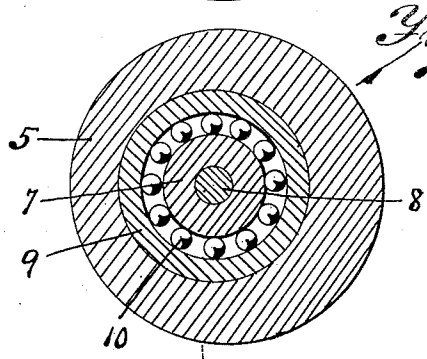


Fig. 3



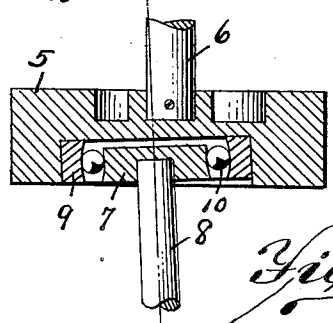


Fig. 4

Fig. 5

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POWER-AGITATOR.

1,392,345. Specification of Letters Patent. Patented Oct. 4, 1921.

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To all whom it may concern:

Be it known that I, ROBERT G. LOWE, a citizen of the United States, and residing at Clawson, in the county of Oakland and State of Michigan, have invented a new and Improved Power-Agitator, of which the following is a specification.

This invention relates to means for sifting, mixing or agitating granular materials or liquids, and its object is to impart gyratory movement to the receptacle in which such materials are contained.

This invention consists, in combination with a receptacle, of a frame to support the same, of an electric motor and a shaft therefor, a frame in which the motor is mounted, a supporting shaft and a ball-and-shaft journal and bearing therefor mounted on said motor frame, and an eccentric connection between the motor shaft and the supporting shaft whereby the supporting shaft will receive a gyratory movement, and means connecting the receptacle frame to the supporting shaft.

It also consists in the details of construction illustrated in the accompanying drawing and particularly pointed out in the claims.

In the drawing, Figure 1 is an elevation of this improved power sieve. Figs. 2 and 3 are sections on the lines 2—2 and 3—3 of Fig. 1, respectively. Fig. 4 is a section through the eccentric connection between the armature and supporting shafts. Fig. 5 is an elevation showing a modified structure.

Similar reference characters refer to like parts throughout the several views.

The side bars 1 of the motor frame are preferably of channel iron and the same bolts 2 which attach the suspending bale 3 thereto may also be used to secure the motor 4 in position. This motor has a heavy eccentric and fly wheel 5 secured to the lower end of its armature shaft 6 and into the eccentric recess in the lower side of the eccentric extends a disk 7 on the upper end of the supporting shaft 8. If desired, the bearing ring 9 and bearing balls 10 shown in Fig. 4 may be employed.

A cross bar 12 secured to the lower ends of the bars 1 is provided with a central opening 30 and a spherical bearing 31 around the opening to receive the ball 13 attached to the shaft 8, which extends down through the opening 30. A cap 14 may be secured to this cross bar to hold the ball on its bearing. A dust cap 15 may be provided if desired. Any other desired type of step-bearing may be employed. When the motor is energized, the upper end and every other part of the shaft 8 will describe a circle, and the shaft itself generates a cone, the shaft being prevented from turning on its own axis by any desired means, an arm 16 secured to this shaft being shown contacting with a bar 1.

A receptacle 17, usually a sieve, is shown gripped between the clamping members 18 secured to the lower ends of the bale 19, a hub 20 connecting the bale to the lower end of the supporting shaft 8, and a bolt 22 and nut 23 being shown causing the members 18 to grip the receptacle. Because of this eccentric connection between the two shafts, the receptacle will be given a very effective gyratory movement.

Instead of attaching the sieve frame to the shaft 8 below the ball 13, it may be attached thereto above the ball, as indicated in Fig. 5, the arms 25 connecting to the hub 26 by means of bolts 27 and the hub being adjustable up and down the shaft 8 and secured in any desired position by means of the screw 28. The arms 25 extend between the side bars 1. The action of the machine thus constructed is similar to that just described but the necessary total height is less.

The details and proportions of the various parts may all be changed by those skilled in the art without departing from the spirit of my invention as set forth in the following claims.

I claim:—

1. In combination, a pair of frame bars and means to suspend said bars, an electric motor mounted between the bars and having a vertical shaft, a cross bar below the motor having a spherical socket for a ball, a supporting shaft and a ball thereon seated in said socket, a connection between the shaft and motor whereby the shaft is caused to gyrate, and a container attached to said supporting shaft.

2. In combination, a frame and means to suspend the frame, a motor mounted in the upper portion of the frame and a vertical shaft therefor, a spherical bearing at the lower end of the frame, a ball mounted in the bearing, a second shaft mounted in said ball, means connecting the motor shaft and

the shaft mounted in the bearing to cause the latter to gyrate, and a sieve attached to the lower end of the second shaft.

3. In combination, a frame and means to suspend the frame, a spherical bearing supported by the frame, a ball in the bearing, a shaft extending down from the ball, a sieve connected to the lower end of the shaft, and means to cause the shaft to move through a conical path.

4. In combination, a frame and means to suspend the frame, a spherical bearing supported by the frame, a ball in the bearing, a shaft extending down from the ball, a sieve connected to the lower end of the shaft, means to cause the shaft to move through a conical path, and means to prevent the shaft from rotating.

R. G. LOWE.