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SPOUT FOR CONCRETE-MIXING MACHINES.

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To all whom it may concern:

Be it known that I, GEBHARD JAEGER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Spouts for Concrete-Mixing Machines, of which the following is a specification.

This invention relates to a distributing spout for a concrete mixing machine adapted to be swung horizontally and reciprocated longitudinally, the latter motion for the purpose of hastening the discharge. I have found that an ordinary reciprocation of the spout results in an undesirably slow discharge of the concrete, hence the purpose of the present invention is to accelerate such discharge. This result I accomplish by providing means whereby the longitudinal motion of the spout in one direction is quickened and then suddenly arrested thereby causing the material to move by its momentum with greater speed than it otherwise would.

The invention is embodied in the example herein shown and described, the feature of novelty being finally claimed.

In the accompanying drawing—

Figure 1 is a view in side elevation of the invention.

Fig. 2 is a combined section and elevation taken on and from the line II—II Fig. 1, looking to the right.

Fig. 3 is a detail in plan view to illustrate the eccentric pitman or reciprocating rod actuated thereby.

Figs. 4 and 5 are a bottom view and a side view respectively of the eccentric.

Figs. 6 and 7 are a top and a central sectional view respectively of the eccentric driving gear.

In the views 5 designates the spout which receives the mixed concrete from a tiltable mixing drum, such for example as shown in my Patent No. 1,322,575, dated November 25, 1919, the discharge end only of the latter being shown at 6. The spout 5 is supported at its upper and lower ends by pivoting legs 7 and 8 respectively upon bars 9. Both the bars and the upper legs 7 can be secured to pins 10 in the ends of a bolster 11 as best seen in Fig. 2. The bolster 11 is supported on the upper end of a spindle 12 stepped or secured in a socket piece 13 supported upon an extension 14 of the main mixer frame (not shown in detail). The

bolster is provided with a set screw 16 at its middle to rest on the upper end of the spindle 12 and by means of which the bolster is adjustable up or down with reference to the parts on the spindle below the bolster. This set screw serves to keep the weight of the spout off the parts below the spindle. On the spindle 12 below the bolster is an eccentric 17 having at its lower side a pin or lug 17^a that enters an arcuate groove 18^a in a horizontal bevel gear 18, also on said spindle. The arcuate groove 18^a is shown as made concentric with the axis of the gear 18 and as on somewhat more of an arc than half a circle. Driving said bevel gear 18 is another bevel gear 19 having a horizontal shaft 20 journaled in a bracket arm 13^a on the socket piece. The shaft 20 is driven by a sprocket chain 21 conveniently taking power from the same source that drives the mixing drum (not shown). The eccentric 17 is equipped with a strap 22; and connecting said strap and the lower side of the spout is a link 23 so that when the eccentric is rotated the spout is reciprocated on its supporting legs 7 and 8.

In operation, therefore, the eccentric 17 is driven by the gear 18 in one direction to pull the spout upward, because of the engagement of the end wall of the groove 18^a with the pin 17^a. Gravity pulls the spout in the downward direction because the pin or lug 17^a is free to move in the slot 18^a just after the spout reaches the high point of its upward reciprocation. Because the gear 18 is not operated with sufficient speed to cause the end wall of the slot to keep up with the travel of the pin or lug 17^a when the spout moves by gravity in the downward direction the latter falls rapidly and is suddenly arrested at the lower limit of its travel. This rapid downward travel of the spout and its quick arrest permits the material in the spout to advance rapidly therein by reason of its momentum and the retrograde movement of the spout in the opposite direction due to the picking up of the lug 17^a by the end wall of the groove 18^a.

The lower end of the spout is supported by a bail 24 and a guy extending upward and attached to the upper portion of an upwardly extended main mixer frame as will be well understood. The bolster, the spout and its supports 7 and 8, the bars 9 and guy can all be swung by hand laterally

or horizontally upon the spindle during the reciprocations of the spout longitudinally.

Because the special form of apparatus for which the present invention is designed is set low no great inclination of the conducting spout is necessary but with the spout agitating means the mixed mass, although not of a very fluent character is speeded to its place of deposit even while being widely distributed by moving the spout horizontally.

The forms of the parts can be changed without departing from the gist of the invention as claimed.

What I claim is:

1. The combination of a distributing spout, means whereby the same may be swung horizontally, and means for reciprocating the same longitudinally with a quickened and suddenly arrested movement in one direction.

2. The combination of a distributing spout, means whereby the same may be swung horizontally, and means for reciprocating the same longitudinally with a suddenly arrested movement in one direction.

3. The combination of a suspended inclined distributing spout, means whereby the same may swing horizontally, and means for reciprocating the same longitudinally consisting of a driven member and an eccentric, the eccentric adapted to be intermittently actuated by the driven member.

4. The combination of a suspended and inclined distributing spout, means whereby

the same may be swung horizontally, and means for moving the same longitudinally consisting of a driven member and an eccentric with means on the driven member and eccentric for moving the spout in an upward direction only, the spout being moved by gravity in a downward direction.

5. The combination with a suspended member, of means for agitating the same consisting of a driven member and an independently movable eccentric connected with the suspended member said eccentric adapted to be intermittently actuated by the driven member in one direction and by gravity in the opposite direction.

6. The combination with a horizontally oscillating suspended member, of means for agitating the same crosswise of the direction of its oscillation consisting of a driven member and an eccentric connected with the suspended member to be intermittently actuated by the driven member.

7. The combination with a suspended conducting spout, of means for agitating the same consisting of a rotary driven member and an independently movable eccentric facing the rotary driven member, said eccentric connected with the suspended conducting spout, and one of said members having a projection and the other an arcuate slot into which said projection extends, whereby rotation of the driven member intermittently imparts movement to the eccentric and conducting spout in the upward direction only.

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