CLOSURE FOR CONCRETE MIXERS

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Inventor

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This invention relates to concrete mixing drums and more particularly to closures therefor.

The object of the invention is more particularly to provide a closure for the discharge opening of the drum of simple and economical construction that can be tightly closed during the mixing operation and in transit and opened to the extent necessary to permit the discharge by rotation of the drum in a direction the reverse of that employed to perform the principal mixing effect. Other objects will appear from the disclosure herein.

The invention is embodied in the example herein shown and described, the feature of novelty being pointed out in the claims.

In the accompanying drawings—

Figure 1 is mainly a vertical longitudinal sectional view on the axis of the drum and according to the invention.

Fig. 2 is a view in elevation of the rear end (or right hand end as shown in Fig. 1) of the mixing drum and the supporting chassis, the supporting wheel, the wheel shown in Fig. 1 being omitted.

In the views 10 designates the chassis and 11 one of the four wheels usually supporting such chassis.

The mixing drum is mounted on suitable roller bearings 14 on the chassis and to turn on a horizontal axis, said drum having a cylindrical portion 15 extended rearwardly as a portion having a flared extension 15a.

The forward end of the drum is closed while its rear end is open for the discharge of the mixed concrete. Said drum has within it to rotate with it two oppositely disposed spiral mixing blades, 16, 16 extended as portions 16a, 16a in the rear tapered portion to function as discharging blades, when the motion of the drum is reversed. Ordinary means, not shown, are provided to rotate the drum in the opposite directions.

The closure for the concrete discharge opening includes a thin frusto-conical portion 17 and a central hub 17a. In the opening of the central hub 17a is fixed a tube 24 that extends into the drum a considerable distance and around a closed extension 25a of pipe 25 for supplying water to the mixing drum. The water pipe is braced at its rear end by a suitable spider 18. Said extension 25a and the water supply pipe 25 cooperate to form a support for the closure. The extension 25a is hollow at its forward end and provided with an internally threaded thickened nut-like portion 26 to receive a screw 23 of slow pitch. The hub 17a of the closure is provided with lugs 19 engaged by a collar 20 on the hand wheel 21. By turning the hand wheel in the proper direction the closure is moved toward or from the discharge opening.

The closure at the portion 17 engaging the flared flange 15a of the discharge opening is thin and therefore somewhat flexible and resilient and the screw 23 for operating the closure is shown of slow pitch. Hence when the screw 23 is turned in the direction to close the closure with pressure against said flared flange 15 there is more or less flexion of the closure portion 17 at its rim thus insuring a tight fit all around between the rim and flange. Further the reactive force of the closure portion 17 tends to tighten the engagement between the feeding screw 23 and the nut in which it is operated and therefore retain the closure in close engagement with the flange 15a.

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

This application is a division of the application filed June 15, 1931, Serial No. 544,468, which has become Patent No. 1,948,715, February 27, 1934.

What is claimed is:

1. A closure for the opening of a concrete mixing drum, said opening provided with a rim, said closure also including a rim and a hub portion provided with a sleeve, said closure rim being yieldedly thickened outwardly spreading when applied to close the said drum opening, a tubular support in said drum on which said sleeve slides, a nut in said tubular support, and a screw operably engaging said closure and said nut to apply the closure to the rim of said opening.

2. A closure for the opening of a concrete mixing drum, said opening provided with an outwardly flaring rim, said closure including a rim having a hub portion provided with a sleeve, said closure rim being outwardly spreading when applied to close said drum rim, a tubular support in said drum on which said sleeve slides, a nut in said tubular support and a screw operably engaging said closure and said nut to apply the closure to the drum rim.

3. A closure for the opening of a concrete mixing drum, said opening provided with a circular outwardly flaring rim, said closure including a circular rim of thin resilient material flared toward and fitting on said drum rim, means for axially supporting said closure for movement toward said drum rim and means for applying pressure to said closure to cause the rim thereof...
to bear against and spread yieldingly outwardly on the face of the drum rim.

4. A closure for the opening of a concrete mixing drum, said opening provided with a circular outwardly flaring rim, said closure including a circular rim of thin resilient material flared toward and fitting on said drum rim, means for axially supporting said closure for movement toward said drum rim, means for applying pressure to said closure to cause the rim thereof to bear against and spread outwardly on the face of the drum rim and means for holding said closure in said spread condition.

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