J. J. LYNCH.

CONCRETE MIXER AND CONVEYER.

APPLICATION FILED MAY 10, 1919.

1,349,285.

Patented Aug. 10, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

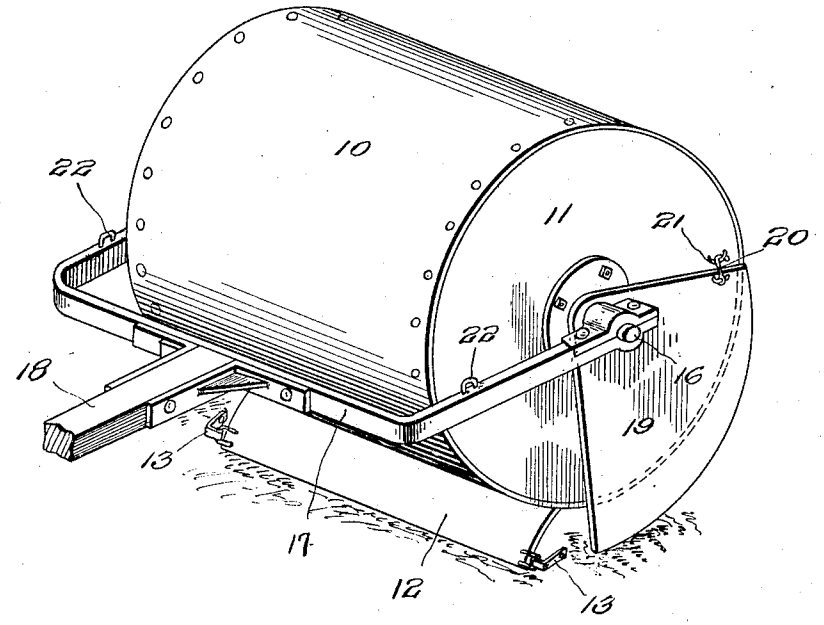
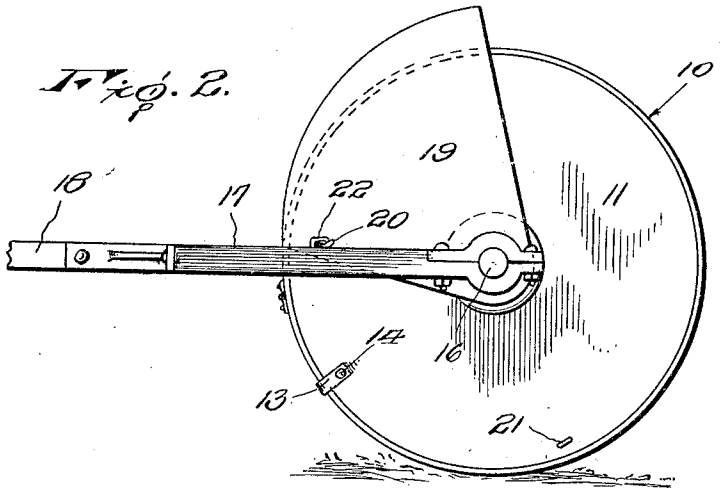


Fig. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

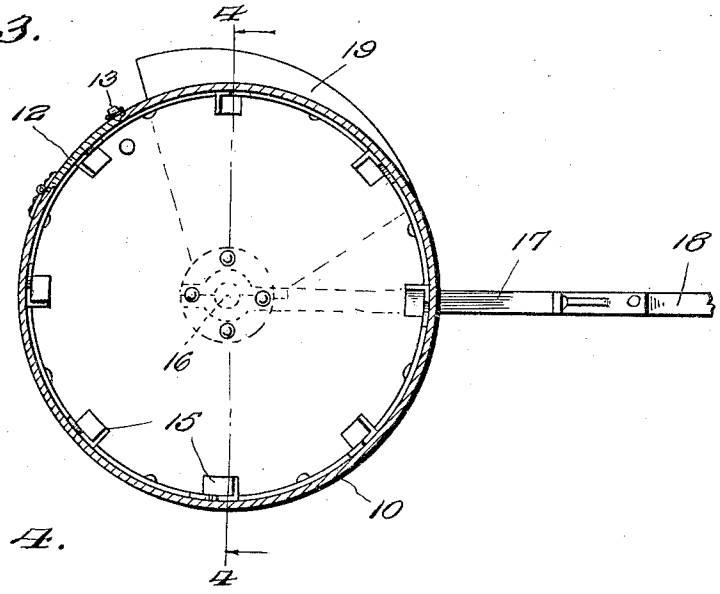


FIG. 4.

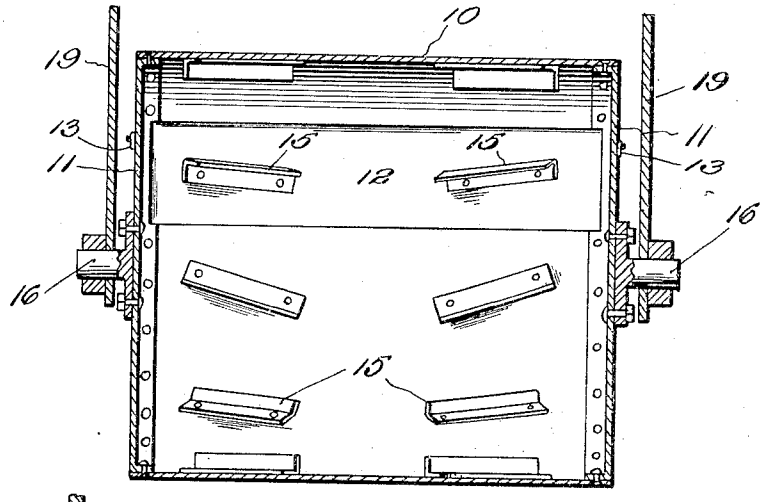
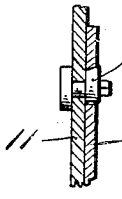


FIG. 5.



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UNITED STATES PATENT OFFICE.

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CONCRETE MIXER AND CONVEYER.

1,349,285. Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed May 10, 1919. Serial No. 296,113.

To all whom it may concern:

Be it known that I, JOHN J. LYNCH, citizen of the United States, residing at Wason Flats, in the county of Dawson and State of Montana, have invented certain new and useful Improvements in Concrete Mixers and Conveyers, of which the following is a specification.

This invention relates to an improved concrete mixer and conveyer and has as one of its principal objects to provide a device of this character which may be rolled from place to place for accomplishing the twofold purpose of mixing the concrete therein and also transporting the concrete to the place of use thereof.

The invention has as a further object to provide a device of this character employing a mixing drum and wherein the drum may, when desired, be readily lifted to permit the free discharge of the concrete from the drum.

A still further object of the invention in this connection is to provide eccentric lifting members in connection with the drum and wherein, by connecting these members to the drum to be turned therewith, the members will, as the drum continues to revolve, act to elevate the drum so that the concrete may freely flow out through the door opening in the drum.

And the invention has as a still further object to provide a construction wherein the turning of the drum will act to thoroughly mix the materials of the concrete therein.

Other and incidental objects will appear hereinafter. In the drawings:

Figure 1 is a perspective view of my improved mixer and conveyer,

Fig. 2 is an end elevation particularly showing the construction of the lifting members for the drum.

Fig. 3 is a transverse sectional view taken through the drum.

Fig. 4 is a longitudinal sectional view, this view particularly illustrating the arrangement of the baffle plates within the drum, and

Fig. 5 is a detail perspective view of the cam latch employed for securing the door of the drum closed.

In carrying the invention into effect, I employ a cylindrical mixing drum 10 closed at its ends by heads 11. The drum is preferably formed of suitable sheet metal and is provided at one side thereof with a hingedly mounted door 12 normally held closed by hasps 13 connected to the ends of the door and coöperating with rotatable cam studs 14 upon the ends of the drum. Secured within the drum adjacent each end thereof is an annular series of angle plates 15 forming baffles, and, as particularly shown in Fig. 4, the plates of each series are inclined toward the central portion of the drum. Consequently these baffles will, when the drum is rotated, tend to direct material away from the ends of the drum.

Bolted or otherwise secured to the drum heads 11 axially of the drum are trunnions 16 and swingingly engaged with these trunnions is a yoke 17 to which is connected, in any approved manner, a tongue 18 so that the device may be readily drawn from place to place. Swingingly mounted upon the trunnions and retained thereon by the arms of the yoke 17 are segmental lifting eccentrics 19. The shorter sides of these eccentrics are each of a radius corresponding to the radius of the mixing drum and suitably connected to the eccentrics at their shorter sides are hooks 20 adapted for engagement in staples 21 upon the drum heads 11 for connecting the eccentrics to the drum to rotate therewith. The hooks 20 are also adapted to engage through staples 22 upon the arms of the yoke 17.

In use, the hooks 20 upon the eccentrics 19 are, as particularly shown in Fig. 2, normally engaged with the staples 22 so that the eccentrics will thus be supported in elevated inactive position. Consequently, the concrete material may be placed within the mixing drum when the drum may be pulled to the place of use of the concrete for thus not only mixing the concrete as the drum revolves but also conveying the concrete to its place of use. When the place where it is desired to dump the concrete is approached, the hooks 20 are, when the drum is stopped, disengaged from the staples 22 and engaged in the staples 21 upon the drum. Coincidentally, the hasps 13 are released to free the door 12. Thus, as will be readily appreciated upon reference to Fig. 3, when the drum is again started to roll forwardly the door will, as it descends toward the ground, start to open so that the free edge of the door, as the drum continues to revolve, will contact with the ground with the result that when the

door opening of the mixing drum reaches the lower side of the drum, the door will be fully opened. Coincident with the downward movement of the door, it will also be seen that the eccentrics 19 will first contact with the ground at their shorter sides when, as the drum revolves, these eccentrics will gradually lift the drum away from the ground so that when the door opening is presented downwardly, as shown in Fig. 1, the eccentrics will support the drum above the ground a major distance. Accordingly, the concrete within the drum may readily discharge through the door opening. As will be seen, the mixing drum may thus be readily emptied of its contents and, moreover, the discharge operation may be easily and quickly accomplished whenever desired.

Having thus described the invention, what is claimed as new is:

1. A device of the character described including a mixing drum adapted to be rolled from place to place, and lifting means operable to elevate the drum by the rolling action thereof.

2. A device of the character described including a mixing drum adapted to be rolled from place to place, lifting means free with respect to the drum, and means for connecting said lifting means with the drum for elevating the drum by the rolling action thereof.

3. A device of the character described including a mixing drum adapted to be rolled from place to place, and lifting members mounted at opposite ends of the drum and operable to elevate the drum by the rolling action thereof.

4. A device of the character described including a mixing drum adapted to be rolled from place to place, trunnions carried by opposite ends of the drum, lifting members freely mounted on said trunnions, and means for connecting said members with the drum to rotate therewith for elevating the drum by the rolling action thereof.

5. A device of the character described including a mixing drum adapted to be rolled from place to place, trunnions carried by opposite ends of the drum, lifting members freely mounted on said trunnions, means for connecting said members with the drum to rotate therewith for elevating the drum by the rolling action thereof, and means for normally securing said members in inactive position stationary with respect to the drum.

6. A device of the character described including a mixing drum adapted to be rolled from place to place and provided with a discharge opening, and cam means for lifting the drum as the drum moves to dispose said opening at the lower side of the drum.

7. A device of the character described including a mixing drum, trunnions carried by the ends of the drum, means for pulling the drum from place to place including a yoke engaged with said trunnions, lifting members swingingly mounted upon said trunnions and retained thereon by the yoke, and means for connecting said members to the drum for elevating the drum by the rolling action thereof.

8. A device of the character described including a mixing drum adapted to be rolled from place to place, baffle means in the interior thereof for directing the material to be mixed away from the ends of the drum, and lifting means operable to elevate the drum by the rolling action thereof.

In testimony whereof I affix my signature.

JOHN J. LYNCH. [L. S.]