July 24, 1934. J. EGGERT 1,967,991

WATER SUPPLYING APPARATUS FOR CONCRETE MIXERS

Filed Nov. 4, 1931

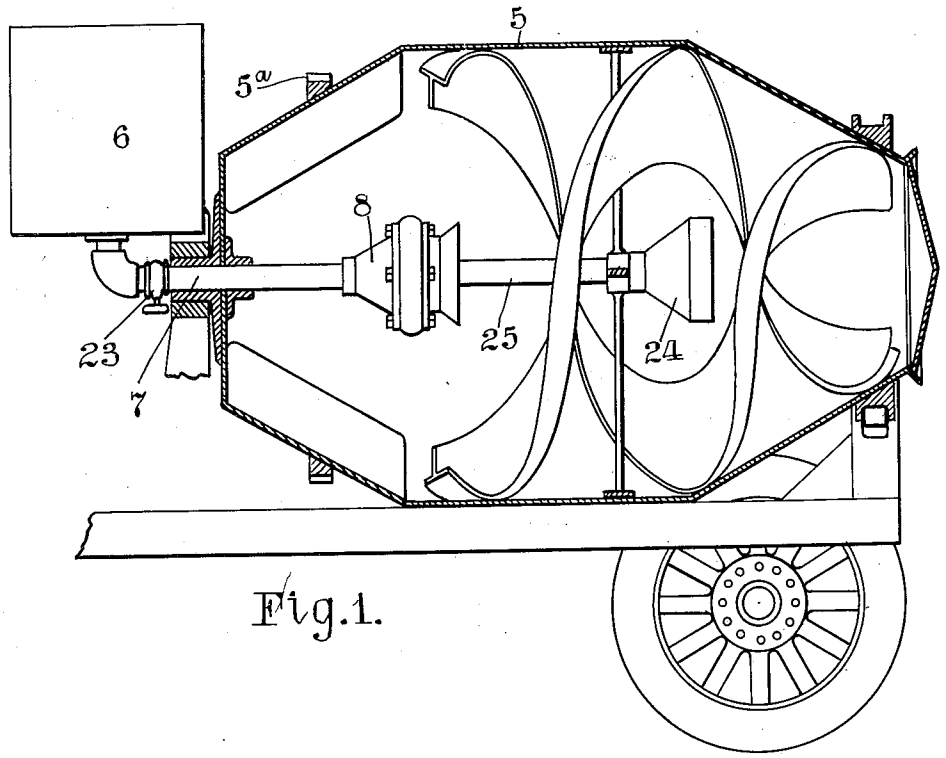


Fig.1.

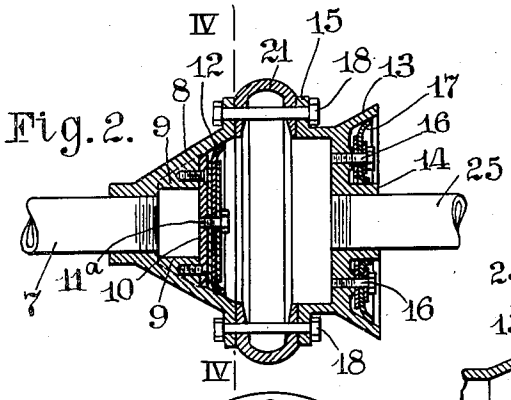


Fig.2.

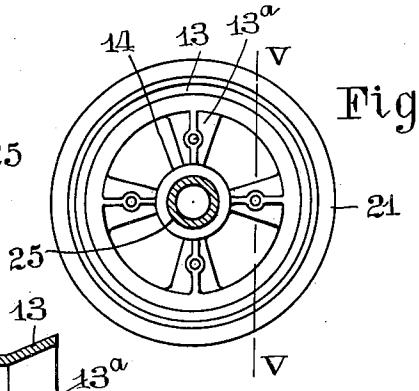


Fig.3.

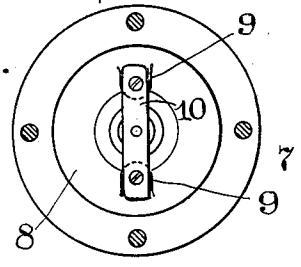


Fig.4.

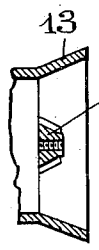


Fig.5.

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Patented July 24, 1934 1,967,991

UNITED STATES PATENT OFFICE

1,967,991

WATER SUPPLYING APPARATUS FOR CONCRETE MIXERS

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Application November 4, 1931, Serial No. 573,005

2 Claims. (Cl. 210—57)

This invention relates generally to concrete mixing apparatus and particularly to such as have a mixing drum mounted on a motor vehicle whereby the concrete may be mixed or transported or mixed during transportation. Such concrete apparatus is now usually equipped with means for supplying water to the dry ingredients of concrete, including a water supply tank from which a pipe leads into the drum.

It has been found that unless some means are provided to prevent it the fluid concrete works back into the water supply pipe and settles and hardens on the interior of the pipe eventually closing and rendering the same unsuitable for properly conducting water into the drum.

The object of the present invention is more particularly to provide improved means whereby the concrete is prevented in large measure from working back into the water supply pipe and whereby such fine particles of cement suspended in the water as do work back are largely trapped and the trapping means made removable so that it can be removed from time to time and cleared of the deposit.

An example of the invention is shown in the accompanying drawing in which—

Figure 1 illustrates in vertical sectional view a truck mixer drum containing the invention.

Fig. 2 illustrates in section on a larger scale a valve device having a trapping means according to the invention.

Fig. 3 is an elevation looking at the right hand side of Fig. 2 with the flexible valve gasket removed.

Fig. 4 is a section on the line IV—IV Fig. 2 looking to the left.

Fig. 5 is a detail section on the line V—V Fig. 3 looking to the right.

In the views 5 designates the mixing drum of the variety having mixing blades or screws, a central cylindrical portion with a tapered forward end closed, except for a water pipe and a tapered rear or discharge end provided with a removable cover. The mixing drum is rotatably supported on a truck and has a suitable annular gear rack 5^a whereby it may be rotated by power, as usual.

6 designates a water tank from which extends a pipe 7 for supplying water to the interior of the drum for mixing with the dry materials of the concrete.

Threaded to the pipe 7 is a flared and flanged hollow metallic casting 8 formed with two lugs 9 to which is secured by screws a bar 10. To the middle of said bar 10 is secured by a bolt 11^a resilient flexible circular gasket valve 12 braced between rigid metallic circular plates of smaller diameter than the flexible member so that the protruding rim or margin of said member shall bear with yielding pressure against the inner conical surface of the casting 8.

Beyond the casting 8 is another casting having a flared portion 13 and a threaded central boss 14 and a cylindrical portion having an annular flange 15. The flared portion 13 has a circular opening broken by four ribs or spokes 13^a having threaded holes to receive bolts 16. Placed around said circular opening is a ring of resilient flexible material 17 braced between stiff metallic rings and secured to said four threaded holes by bolts 16 so that the interior and exterior projecting margins shall bear with a yielding pressure against the central boss and the flared interior surface of the casting respectively. The ribs 13^a have beveled sides as shown in Figs. 3 and 5 to promote the shedding of the concrete material back into the mixing vessel.

Secure between the flanges of the two castings referred to by means of four bolts 18 is a trap ring 21 forming a closed and annularly projecting chamber 22 between the two valves.

In practice when water is to be supplied to the mixing drum a suitable valve at 23 or other control is opened and the pressure of the water from the tank opens said valves and permits the flow of water into the drum and when the water is shut off the elastic flexible margins close against the respective walls.

When the mixing operation takes place the flexible valves prevent, to a large extent, the entrance of the wet concrete but such water containing the fine particles of cement as may work back in the pipe around the elastic margins of the valve gaskets deposits a large part of the solid contents into the trap. From time to time the trap may be taken out by removing the bolts 18 and the collected silt removed from the interior thereof.

A second supplemental valve 24 similar in construction to that of the forward valve member first described can be added on the end of a pipe extension 25 secured into the boss 14 or center of the second valve for the purpose of supplying water to the drum quickly and more even diffusion through the dry materials.

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

What I claim is:

1. A check valve structure including two perforated heads, one of which is provided with

means whereby the same may be connected with a horizontal water conductor, said heads each having a resilient valve for the perforation, said valve opening in the direction of the flow of water through the structure, and a trap forming member removably secured between said heads providing an inclosed and enlarged silt collecting chamber between said heads, said chamber extending at right angles to the direction of flow through said heads.

2. In a water supply apparatus for a concrete mixer drum, a water receptacle, a discharge pipe leading therefrom to the mixer drum and having lateral discharge outlet, means external to said pipe at the discharge outlet thereof for preventing the contents of said drum from working back into said pipe through said outlet, said means including a shield of rigid and flexible material surrounding said pipe at said outlet and protecting said outlet, said flexible portion permitting discharge only of water from said pipe and a hood of rigid material on the pipe protecting said flexible portion of the shield from destructive action of the batch being mixed.

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