

F. YEAGER.
CONCRETE MIXER.
APPLICATION FILED JUNE 16, 1905.

952,555.

Patented Mar. 22, 1910.

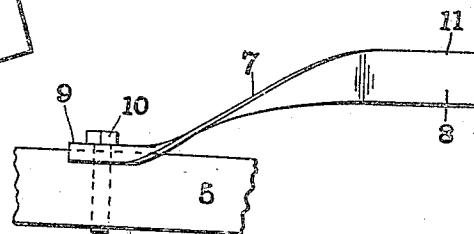
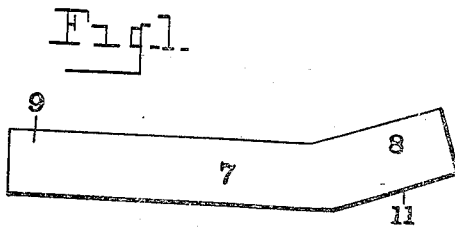
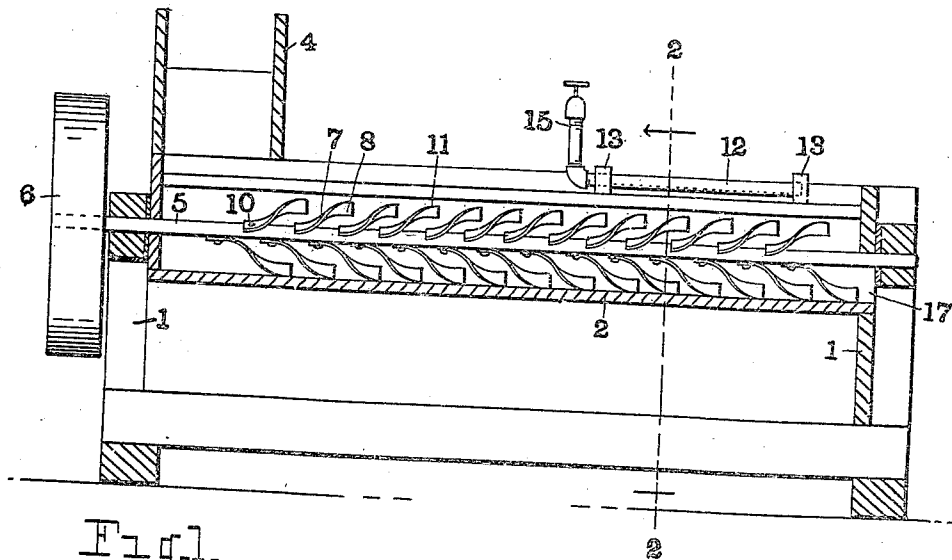


Fig. 4.

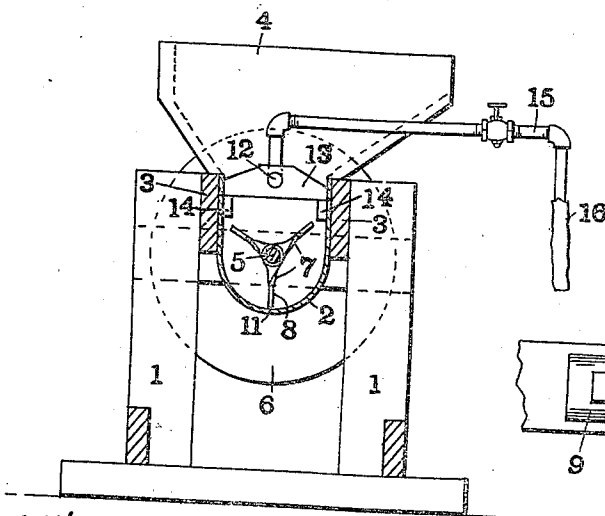


Fig. 5.

Witnesses.
O. B. Baenziger,
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Fig. 2.

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UNITED STATES PATENT OFFICE.

FRANK YEAGER, OF RILEY CENTER, MICHIGAN.

CONCRETE-MIXER.

952,555.

Specification of Letters Patent. Patented Mar. 22, 1910.

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To all whom it may concern:

Be it known that I, FRANK YEAGER, a citizen of the United States, residing at Riley Center, in the county of St. Clair, State of Michigan, have invented certain new and useful Improvements in Concrete-Mixers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in machines for mixing concrete, and consists in the construction and arrangement of parts hereinafter fully set forth and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for thoroughly mixing the sand, cement and stone, and at the same time conveying the mass along the receptacle in which it is mixed and discharging it from the end of the mixer opposite to that in which it is introduced, provision being made for supplying water to the mass after it has become thoroughly mixed and before it is discharged from the mixer.

The above object is attained by the structure illustrated in the accompanying drawings and set forth in the claims, in which:—

Figure 1 is a central, longitudinal section through a concrete mixer involving my invention. Fig. 2 is a transverse section as on line 2—2 of Fig. 1. Fig. 3 is a plan view of the blank from which the mixing and conveying blades are formed. Fig. 4 is an elevation of one of said blades mounted on the shaft. Fig. 5 is a plan view of Fig. 4.

Referring to the characters of reference, 1 indicates a suitable frame in which is supported a horizontal trough or tub wherein the concrete is mixed and which comprises the semicylindrical body portion 2, formed preferably of sheet metal, the upper parallel edges of which are secured to the longitudinally extending side pieces 3 of the frame. Located at one end of the mixing trough is a hopper 4 in which the materials are placed. Extending longitudinally of said trough is a shaft 5 suitably journaled at its ends in the frame and carrying at one end the driving pulley 6.

Mounted upon and arranged spirally around the shaft 5 are the mixing and conveying blades 7 which are formed preferably of spring metal and are provided with an angular end portion 8 (see Fig. 3). The shanks 9 of the blades are made slightly concavo-convex to fit the contour of the shaft 5 to which they are secured by the bolts 10. Each blade as will be seen, is bent upwardly from the shank and the outer end portion thereof is twisted one-quarter of a turn to give an auger-like formation to the body of the blade, whereby they are caused to convey the materials along the mixing trough as well as to carry them over and over as the shaft 5 revolves each blade in succession presenting the materials to the succeeding blade, and at the same time thoroughly stirring the mass so as to properly mix the ingredients. By twisting the blades in the manner described and bending them outwardly from the shaft, the outer edges 11 of the end portions 8 are caused to stand parallel to the axis of the shaft and in close contact with the curved wall of the mixing trough throughout, whereby said wall is thoroughly scraped and the formation of a coating of concrete thereon is obviated. The peculiar shape of the blades causes them to pick up the mass and carry it over and over as the shaft revolves, at the same time conveying said mass along so that its particles become thoroughly mixed by the time it reaches the point where the water is introduced. To supply the water properly, a perforated pipe 12 is employed which is mounted centrally over the trough near its discharge end and is supported in two cross pieces 13 which rest loosely and are adapted to slide on the longitudinal strips 14 secured to the inner opposite walls of the trough. Communicating with the pipe 12 is a water supply pipe 15 having a hose connection 16 to afford facility of movement. The adjustability of the water pipe 12 enables the water to be supplied to the mass at any desired point in its passage through the mixer. In the rear end of the trough is a discharge opening 17 through which the mass passes from the mixer.

By means of the mixing and conveying blades mounted upon and turning with the rotary shaft, the materials are carried continuously through the machine and thoroughly mixed, the rust and dirt upon the

stones being rattled off by the operation of the mixing conveyers so that when reaching the point of the application of water, the stones are thoroughly cleaned and in a condition to enable the cement to adhere firmly thereto.

Having thus fully set forth my invention, what I claim as new and desire to secure by Letters Patent is:—

10 1. In a concrete mixer, the combination with a mixing trough, of a rotary shaft extending longitudinally thereof, mixing and conveying blades mounted on said shaft in horizontal rows, the blades in each horizontal line over-lapping and each blade having a continuous rearwardly extending curve.

15 2. In a concrete mixer, the combination

with a mixing trough, of a shaft extending longitudinally thereof, spring conveying blades mounted on said shaft in parallel horizontal rows, the blades in each horizontal row over-lapping and said blades collectively being arranged spirally on said shaft, the mixing blades standing obliquely to said shaft and each blade having a continuous rearwardly extending curve which carries its free end into terminal contact with the curved wall of the trough.

In testimony whereof, I sign this specification in the presence of two witnesses.

FRANK YEAGER.

Witnesses:

MARTIN ELLINWOOD,
AMERETTIE ELLINWOOD.