No. 658,486. Patented Sept. 25, 1900.

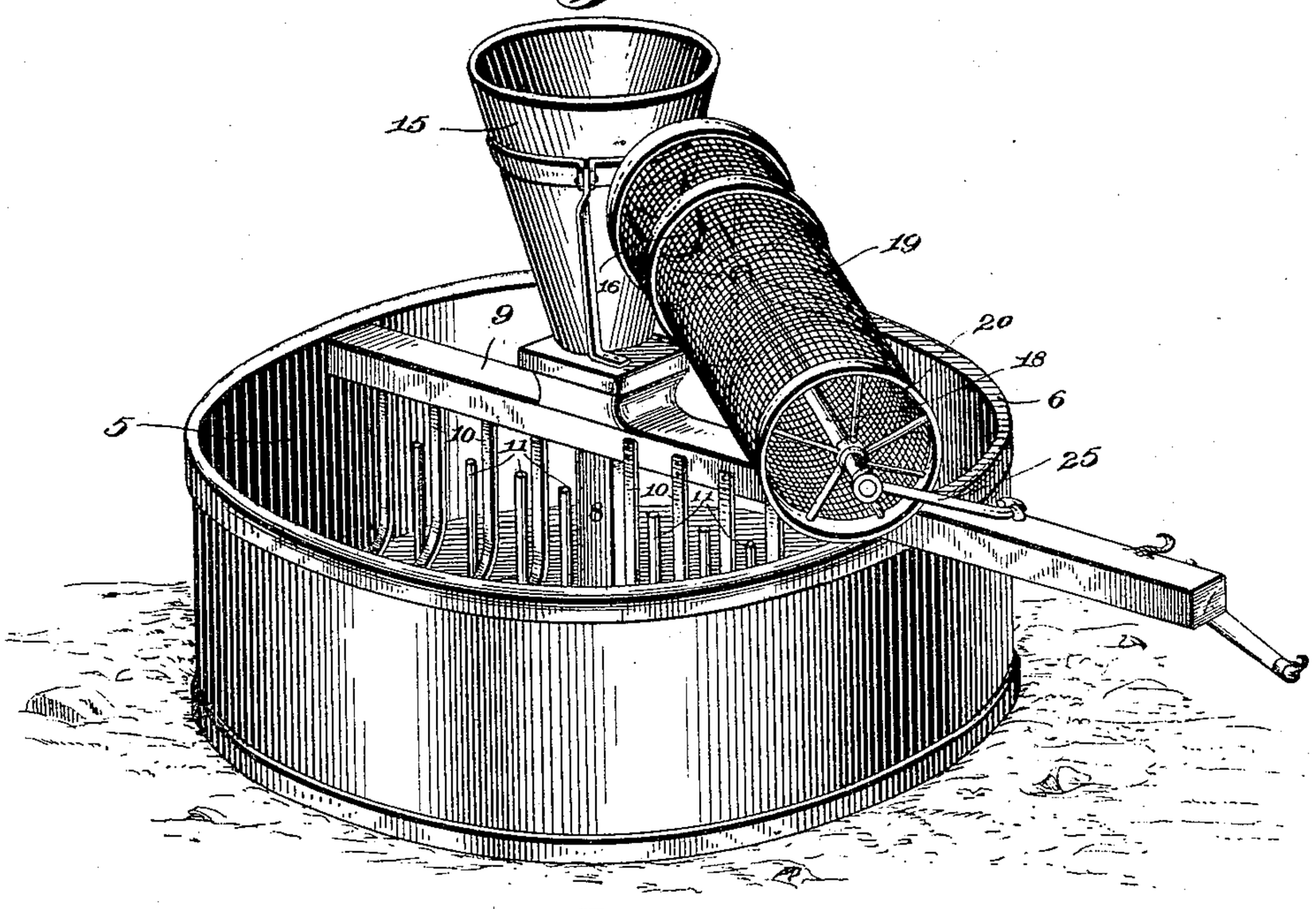
W. L. HAYES.

MACHINE FOR MIXING MORTAR.

(Application filed Sept. 2, 1899.)

(No Model.)

Fig. 1.



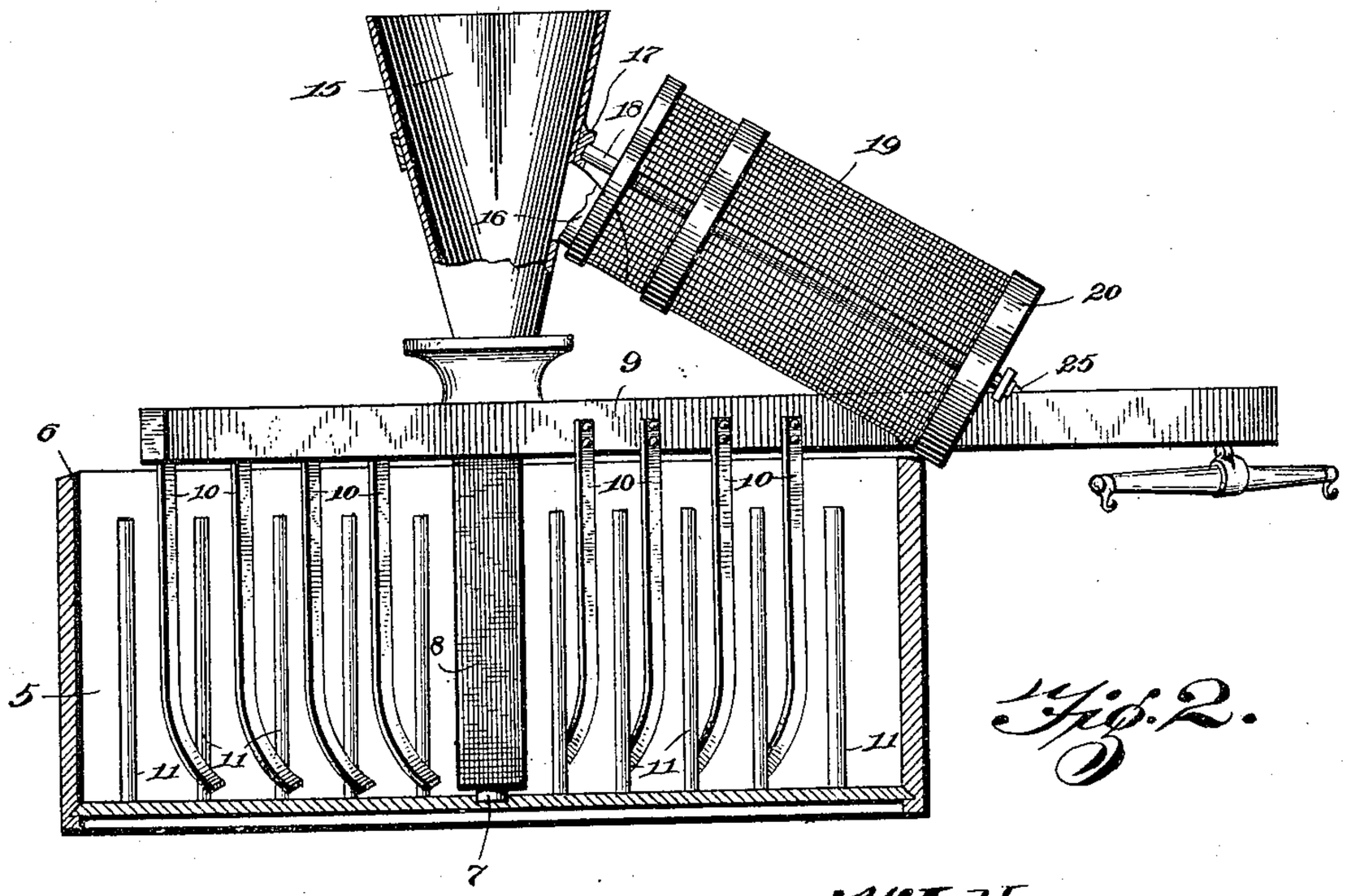


Fig. 2.

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UNITED STATES PATENT OFFICE.

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MACHINE FOR MIXING MORTAR.

SPECIFICATION forming part of Letters Patent No. 658,486, dated September 25, 1900.

Application filed September 2, 1899. Serial No. 729,399. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. HAYES, a citizen of the United States, residing at Otis, in the county of Washington and State of Colorado, have invented a new Machine for Mixing Mortar, of which the following is a specification.

This invention relates to mixing-machines in general, and more particularly to the class of mortar-mixers, although the principles involved may be applied to a machine for mixing any other materials to which they are adapted, the object of the invention being to provide a construction wherein the materials will be quickly and thoroughly mixed and in which an ingredient of the mixture may be supplied thereto during the mixing operation in a simple manner and with regularity, further objects and advantages of the invention being evident from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete machine. Fig. 2 is a vertical section taken centrally through the mixing-tank and showing the mixing mechanism in elevation.

Referring now to the drawings, the present apparatus consists of a cylindrical tank 5, of suitable height and formed, preferably, of wood, although it may be of other material, and at the upper edge of which tank is formed an outwardly and downwardly slanting track 6, for a purpose which will be presently explained. A bearing 7 is formed centrally of the bottom of the tank 5, and in this bearing is journaled the lower end of a vertical shaft 8, to the upper end of which is fixed a horizontal sweep 9, one end of which projects beyond the periphery of the tank 5 and is provided with means for attachment of a team, while the opposite end of the sweep terminates short of the periphery of the tank. To the sweep 9 and at both sides of the shaft 8 are fixed mixing-fingers 10, having their lower ends curved forwardly in the direction of operative rotation of the sweep and lying in planes at right angles to the plane of the sweep. These fingers 10 are equally spaced and an equal number are disposed at each side of the shaft. Additional fingers 11 are provided, and these fingers 11 are secured to the bottom of the tank 5 and project upwardly therefrom, said fingers 11 being arranged parallel and in the line of a diameter of the tank, and they are so spaced with relation to the fingers 10 that as the sweep is operated the fingers 10 will pass between fingers 11 and will alternate therewith, thus effecting a thorough mixing of any materials in the tank.

In the mixing of mortar it is necessary to supply sand thereto during the operation in order to secure good results, and in order that such material may be supplied evenly throughout the surface of the mixture and in proper quantity a sand-feeding mechanism is provided. This mechanism includes a hopper 15, which is mounted centrally of the sweep and upon the upper face thereof, said hopper having a discharge-chute 16 for the discharge of sand, &c., therefrom. On the side of the hopper 15 and above the discharge-chute 16 is formed a bearing 17, in which is journaled one end of the shaft 18 of an open-ended foraminous cylinder 19, said cylinder having a tire 20 upon its outer end, which bears upon the track 6 at the upper edge of the tank 5 and upon which it is adapted to run to rotate the cylinder. The cylinder 19 is slantingly disposed, with its outer end below its inner end, and its inner end is arranged to receive the discharge-chute 16, so that the material therefrom may be deposited in the cylinder or sifter 19. Shaft 18 is mounted at its lower end in an arm 25 upon the sweep and extending laterally therefrom.

In practice the mortar is placed in the tank with an excess of moisture, and the sweep is operated to carry the fingers thereof in the direction of projection of their lower ends, the cylinder 19 being carried around with the sweep, and in being thus carried it runs upon the track 6 and effects a rotation of the cylinder. At the same time the sand and other materials that may be contributed to the hopper are discharged through the chute 16 and into the upper end of the cylinder, which by its rotation sifts the fine particles through and distributes them upon the surface of the mortar, the larger particles and foreign matter passing downwardly of the cylinder and being discharged from the lower end thereof.

It will of course be understood that in practice any suitable materials and proportions may be used without departing from the spirit of the invention.

What is claimed is—

1. A mixing-machine comprising a tank having a track at its edge, a rotatable sweep having mixing-fingers entering the tank, a rotatable and inclined, open-ended sieve carried by and bodily movable with the sweep, said sieve resting upon the track for rotation thereby, said sieve being disposed over the tank and with its lower end projecting beyond the edge thereof, and a hopper arranged to discharge to the sieve.

2. A mixing-machine comprising a cylindrical tank having a track at its upper edge, a vertical shaft mounted in the tank, a sweep mounted upon the shaft and having mixing-fingers extending into the tank, a hopper mounted centrally of the sweep and having a discharge-chute, and an open-ended, foraminous cylinder having a shaft journaled at one end upon the hopper for bodily movement when the sweep is rotated, said cylinder having open ends and lying with one end to receive from the chute and with its opposite end in a lower plane and resting upon the track, whereby the cylinder will be rotated axially as it is rotated bodily.

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