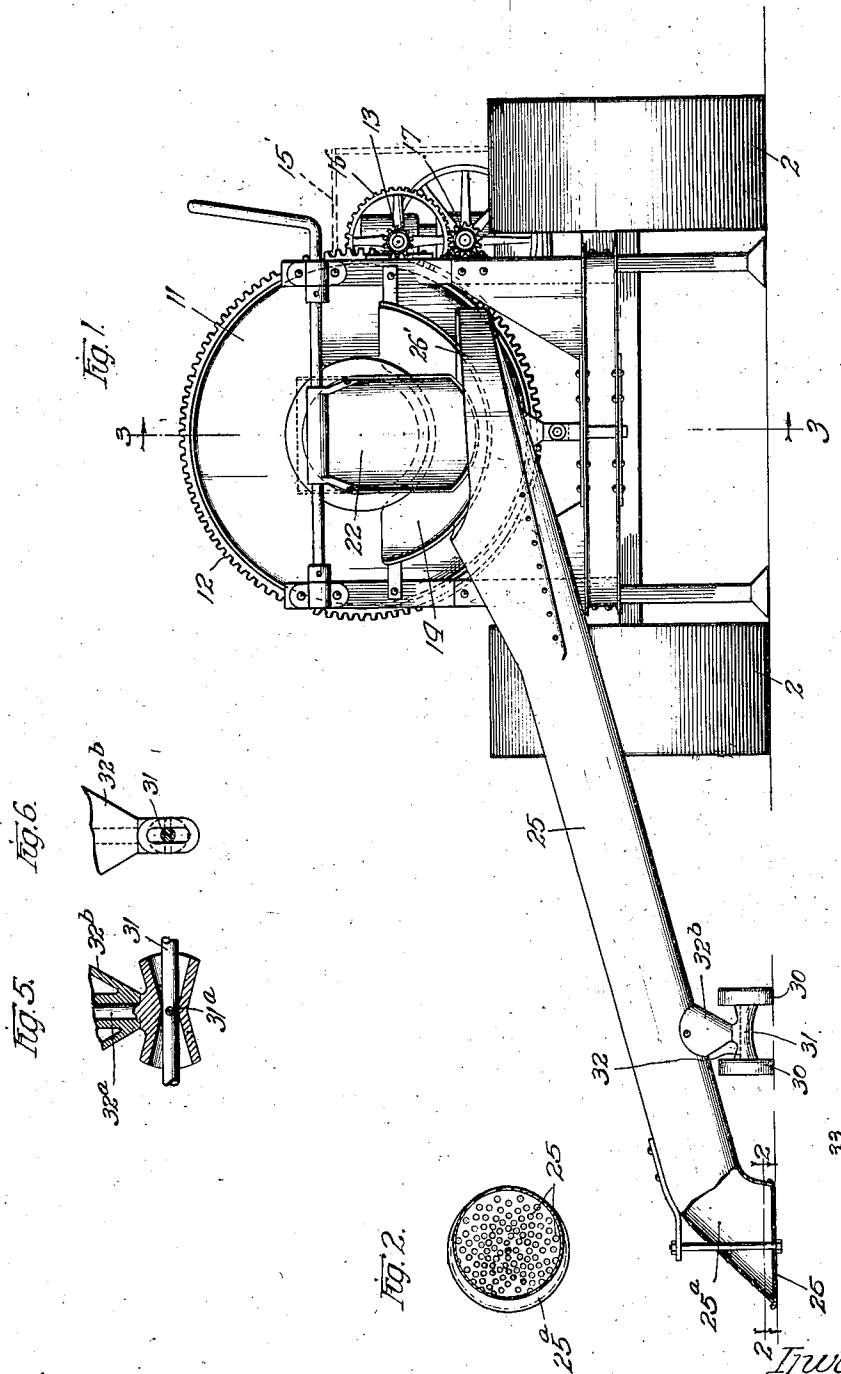


A. D. MOSBY.
MIXING MACHINE.
APPLICATION FILED FEB. 14, 1917.

1,351,725.

Patented Aug. 31, 1920.

3 SHEETS—SHEET 1.



Witnesses:
Robert H. Weir
Arthur W. Carlow

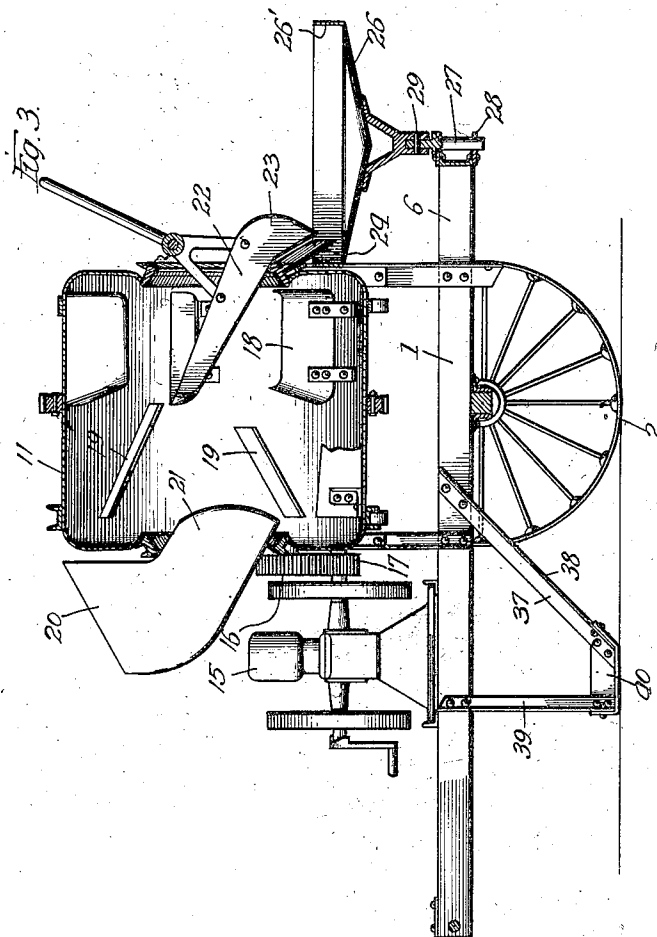
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

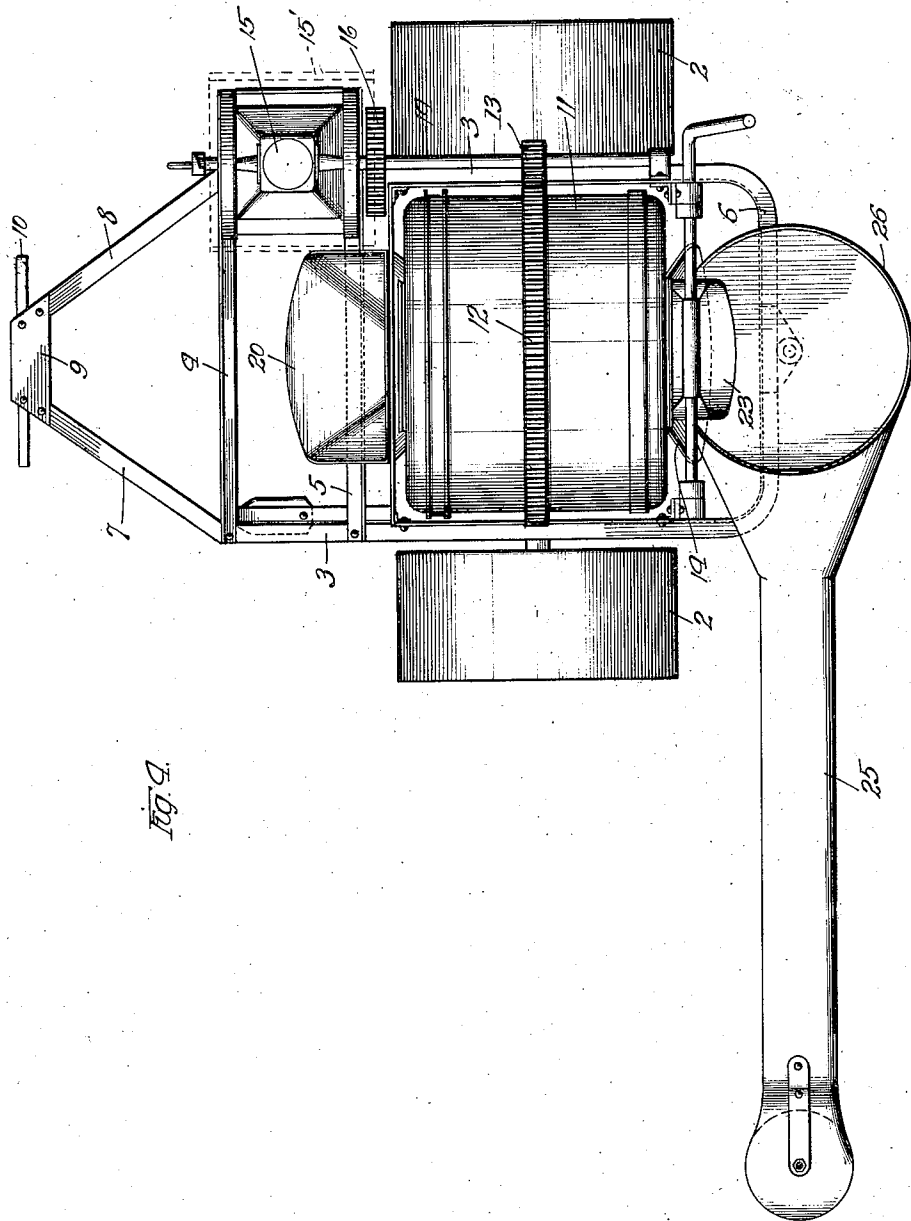


Fig. 4.

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UNITED STATES PATENT OFFICE.

ALFRED D. MOSBY, OF CHICAGO, ILLINOIS, ASSIGNOR TO EQUIPMENT CORPORATION OF AMERICA, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

MIXING-MACHINE.

1,351,725.

Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed February 14, 1917. Serial No. 148,470.

To all whom it may concern:

Be it known that I, ALFRED D. MOSBY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Mixing-Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to mixing machines, such as concrete mixers generally.

Prominent objects of the invention are to provide a simple and practical form of concrete mixing machine; to arrange for the special and advantageous distribution of the mixing material; to permit said material to be distributed directly and accurately in desired locations on the ground or other surface on which the mixing machine stands; to permit such distribution accurately over extended areas of such ground or other surface; to permit the ready transportation or movement of the machine to be accomplished manually, quickly and easily; to prevent the separation of the ingredients and to give an even and uniform distribution; and to accomplish the foregoing and other desirable results in a simple and expeditious manner.

The mixing machine which I show herein is particularly adapted for use in mixing and distributing grout, that is,—a mixed concrete material of quite liquid consistency which is used especially to fill the interstices between bricks or other objects forming pavements, floors or the like. It will be understood, however, that the invention can be used for other purposes.

In the accompanying drawings Figure 1 is a front elevation of a mixing machine or grouter embodying my present invention; Fig. 2 is a cross section taken on line 2—2 in Fig. 1;

Fig. 3 is a side elevation of the machine; Fig. 4 is a top plan view of the same; and Figs. 5 and 6 are views of details of construction.

In the drawings I show a mixing machine having a body frame 1 supported on wheels 2, which latter are preferably very broad as shown in Fig. 1. The frame 1 preferably consists of side members 3, rear cross members 4 and 5, and a front cross member 6, conveniently formed integral with the

side members 3. At the rear of this frame I desirably provided converging side members 7 and 8, (Fig. 4), which have their converging ends secured together by a member 9 and provided with a cross bar or handle 10, by which arrangement a person operating the machine may take hold of the cross bar 10 and lift the rear of the machine so as to permit it to be moved about readily upon the wheels 2. A mixing cylinder 11 is also mounted upon the frame of the machine, preferably with its axis of rotation extending from front to rear of the machine. This cylinder 11 is provided with suitable driving mechanism for rotating it, the arrangement shown consisting of a gear 12 on the outside of the cylinder and a driving pinion 13 mounted on a driving shaft 14, the latter being driven by an engine 15 through transmitting gear 16 and pinion 17.

The interior of this mixing cylinder 11 as best shown in Fig. 3, is provided with mixing members 18 on one side of the cylinder and inclined delivery members 19 on the other side of the same. A trough 20 is mounted outside of the cylinder 11 so as to receive material for said mixing cylinder, the inner end 21 of this trough being inside of the cylinder 11 to insure effective delivery. A discharge chute 22 is provided at the other side of the mixing chamber 11, the inner end of said chute extending well into the said cylinder when in its inner position, as shown in Fig. 3, so as to receive the mixed material from the members 18. The outer end 23 of this chute 22 projects outwardly and downwardly from the central orifice or opening of the mixing cylinder 11 so that material may be deposited from the same. A shield 24 is preferably located below the end 23 so as to catch whatever material may accidentally overflow from the chute 22. This member 24 is of more or less apron shape and extends on opposite sides of the discharge orifice of the cylinder 11 as well as below the same.

A delivery spout 25 is mounted so as to receive material discharged by the chute 22. This spout 25 is preferably provided with a receiving end 26 which is preferably made of substantial width, as for example like the pan with an annular or substantially annular rim 26'.

This receiving end 26 is mounted for horizontal

zontal swinging movement and also for vertical tilting or swinging movement. An advantageous construction is to provide a vertical pin or pivot 27 which passes through a bracket 28 on the frame piece 6; and to provide a cross-pin 29 and mount the end 26 of the spout on the same. Thus the spout may be swung from side to side on the pin 27, and up and down on the cross-pin 29, giving the spout a "universal" motion. The body portion of the spout 25 extends downwardly almost to the surface of the ground or floor or other surface upon which the machine is mounted and is preferably provided near its lower end with a supporting and traveling device, as for example, a pair of wheels or rollers 30. These are preferably mounted upon a connecting axle 31 which is pivotally connected by means of a pin 31^a with a bearing or holding member 32 which has a pivot pin 32^a extending up into the standard 32^b on the end of the spout 25, whereby said rollers may turn in any direction on the pin 32^a and may also tilt vertically about the pin 31^a to accommodate unevennesses on said surface. The spout 25 may be swung about its pivotal connection with the frame of the machine clear from one side to the other or to any intermediate position. During this movement said spout 25 is kept at the same or substantially the same level from the ground or floor and the material coming from the spout may be delivered at any particular point or points desired or the spout may be shifted as much or as little as desired so that in combination with the bodily movement of the machine and the independent movement of the spout, the mixture or material coming from the machine may be distributed in any manner desired. It will be seen, however, that the arrangement is particularly well adapted to permit the distribution of the material in an even layer over a widely extended surface, by swinging the spout from one side to another and back again, and at the same time moving the machine itself so as to change the area over which the spout travels in its successive sidewise movements.

The lower end 25^a of the spout is preferably so constructed as to come very close to the surface 33 of the ground or floor on which the machine is being used and this prevents splashing of the material and insures accurate application of the same to the particular points desired.

This end 25 of the spout is also preferably provided with a suitable device, such as the perforated plate 35, by which the material discharged may be broken up so as to insure a finely divided or liquid quality of material being discharged. This is especially desirable in a grouting machine.

The engine 15 is shown mounted in the

rear of one side of the mixing cylinder 11 and is preferably provided with a suitable metal case or housing 15'. This engine is conveniently at one side of the machine so as to permit ready feeding of the cylinder 11 through the chute 20. The engine is sufficiently close to the wheels 2 to permit the machine to be lifted by the handle 10 and rolled about as desired to distribute the material; but at the same time said engine is far enough from said wheels to substantially overbalance the cylinder 11 and discharge spout 25 so as to maintain the machine always normally in a horizontal position as shown in Fig. 3. For supporting the machine in this position I show legs 37, one each side of the machine, secured to the side members 3. Each of these legs conveniently consists of an inclined front angle bar 38 and a rear vertical angle bar 39, and a shoe 40 secured to the lower ends of said angle bars. Thus the machine may be lifted and pushed or pulled around as desired and then set down again in any desired position where it will remain by its own weight.

It is understood that changes and modifications may be made without departing from the spirit of the invention.

What I claim is:

1. A mixing machine having a mixing chamber provided with a discharge chute and a delivery device having a receiving pan located below the outlet end of said discharge chute, said pan being mounted upon a vertical pivot located below the pan and the discharge device extending outwardly and downwardly from said pan and provided near its discharge orifice with means resting upon the surface on which the material is to be distributed for supporting said discharge orifice and permitting same to be moved over said surface above and close to the same.

2. A movable mixing machine having a mixing chamber provided with a discharge chute, in combination with a delivery device comprising a horizontally arranged pan portion located below the outer end of said chute and a body portion extending outwardly and downwardly from said pan portion, said pan portion being supported upon both vertical and horizontal pivots to permit it to have both horizontal and vertical swinging movements, and the discharge end of said body portion being mounted upon the rollers having a pivotal connection with said body portion whereby said discharge orifice may be readily moved in any direction upon the surface on which the material is to be distributed.

3. A movable mixing machine comprising a body frame provided with mixing mechanism, and a horizontally adjustable discharge device having one end connected with said body frame so as to receive material

from the mixing mechanism and having its remaining portion extending downwardly to the surface upon which the material is to be distributed, whereby said mixing material may be discharged by gravity and rollers supporting the lower end of said discharge device.

4. A movable mixing machine comprising a body frame provided with mixing mechanism, and a discharge device having a receiving end located to receive material from the mixing mechanism and having a body portion in the form of a downwardly extending slideway along which the material may slide by gravity and rollers on which the lower part of said body portion is mounted, said rollers being adapted to rest upon the surface over which the material is to be distributed and move the discharge orifice of said discharge device over and close to the same.

5. A mixing machine having a discharge device having its discharge end provided with wheels adapted to rest and travel upon

the surface on which the machine stands, in combination with means for supporting said wheels to permit them to swing horizontally and tilt vertically.

6. A mixing machine having a discharge device having its discharge end provided with wheels adapted to rest and travel upon the surface on which the machine stands, in combination with means for supporting said wheels to permit them to swing horizontally and tilt vertically, said means comprising an axle on which said wheels are mounted, a cross pin on which said axle is pivoted, a housing or bearing member for said axle, and a vertically arranged pivot on said housing or bearing member, said discharge device being mounted on said pivot.

In witness whereof, I hereunto subscribe my name this 15th day of January, A. D. 1917.

ALFRED D. MOSBY.

Witnesses:

A. L. JONES,
HAZEL A. JONES.