March 15, 1927. 1,621,345

N. M. ANDERSON

MIXING MACHINE

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Fig. 1.

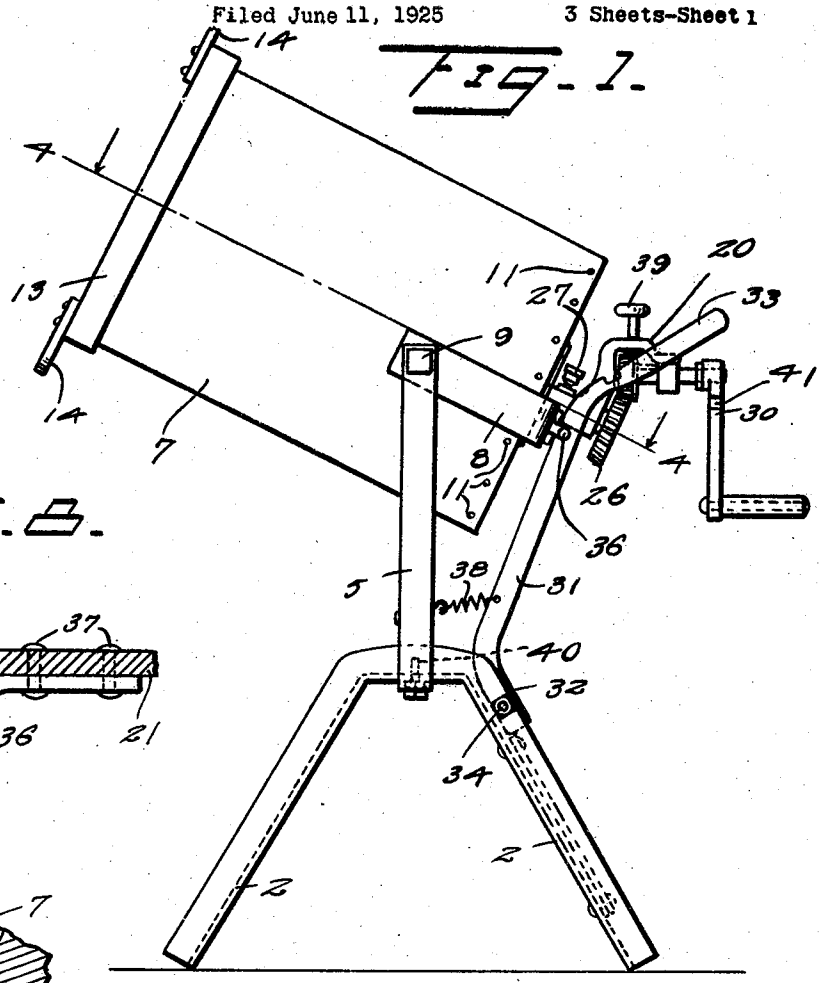
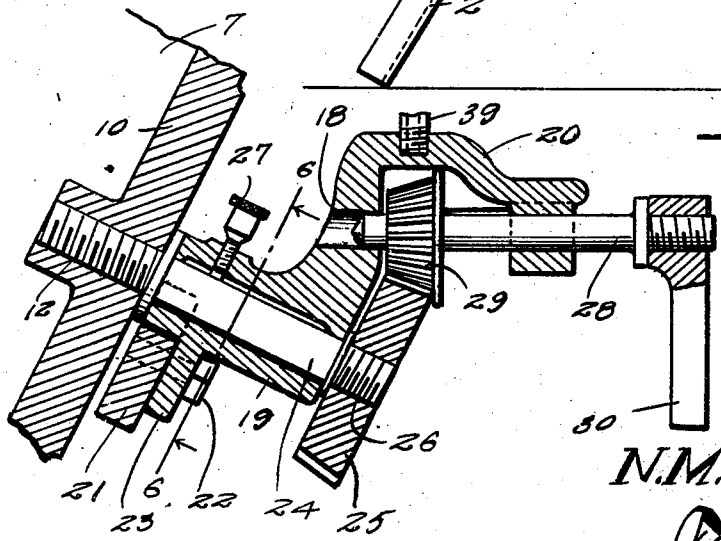


Fig. 8.

Fig. 5.



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Fig. 2.

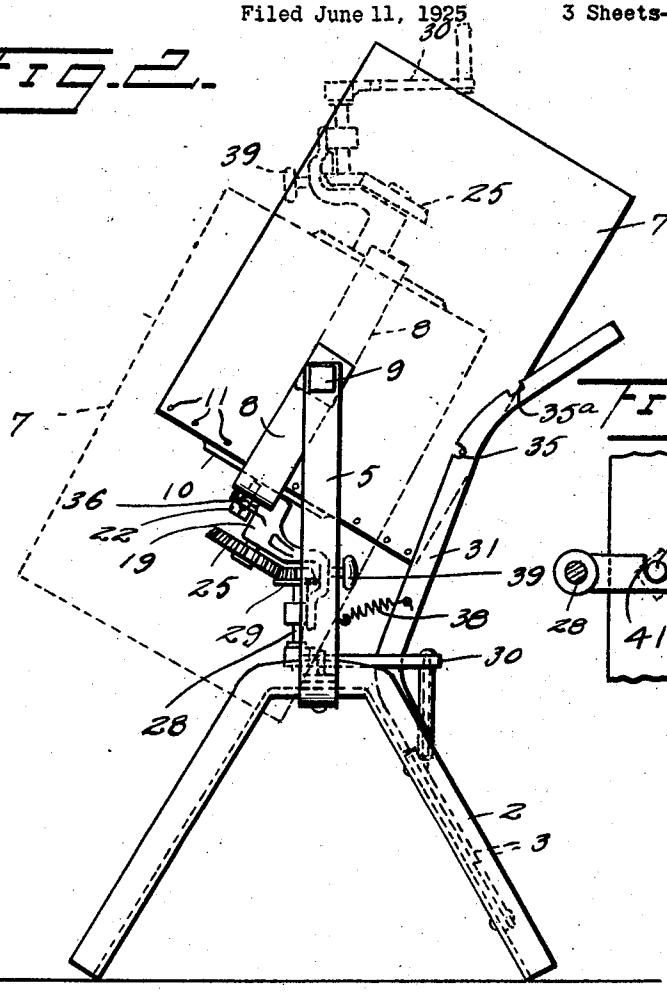
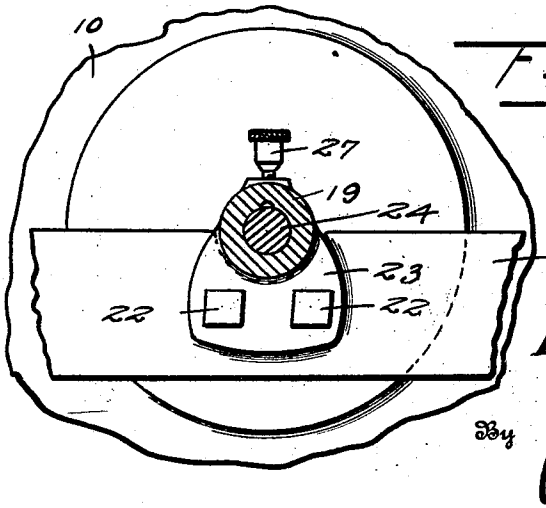


Fig. 10.

Fig. 6.



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MIXING MACHINE

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Fig. 3.

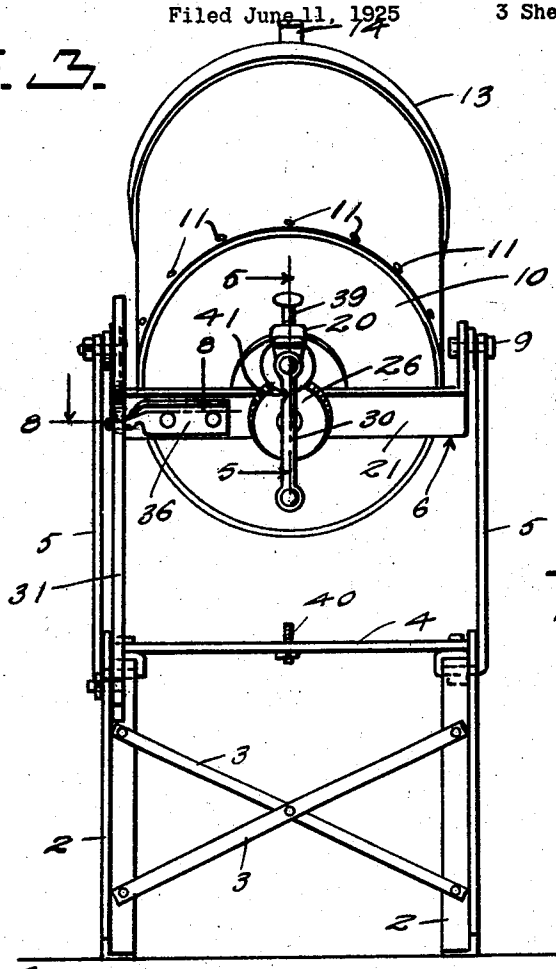


Fig. 7.

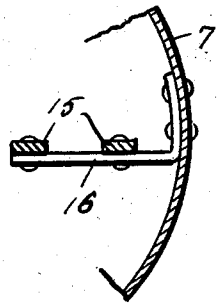


Fig. 4.

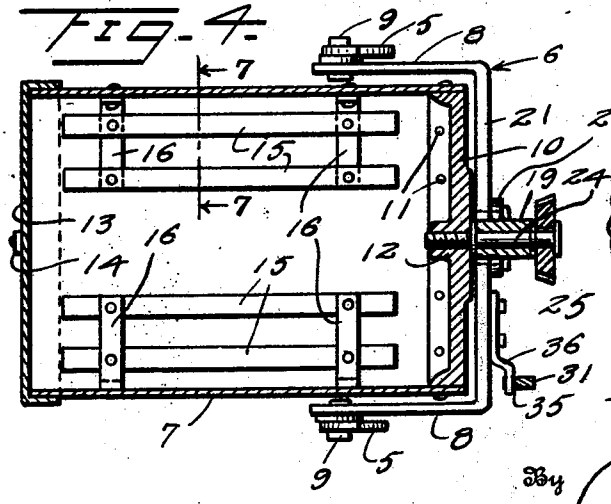
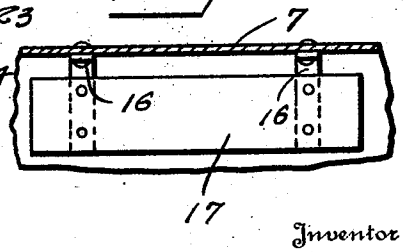


Fig. 9.



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Patented Mar. 15, 1927. 1,621,345

UNITED STATES PATENT OFFICE.

NEWTON M. ANDERSON, OF BEDFORD, INDIANA.

MIXING MACHINE.

Application filed June 11, 1925. Serial No. 36,451.

This invention relates to mixing machines of that type comprising a rotatably and rockably mounted drum, and has for one of its objects to provide novel and simple means through the medium of which the drum may be manually rotated at the expenditure of comparatively little energy.

A further object of the invention is the provision of a machine of the character stated wherein the hand crank of the rotating means shall be adapted to hold the drum in loading position.

A further object of the invention is the provision of a machine of the character stated which shall include novel and simple means adapted to hold the drum in an upwardly inclined or in a horizontal mixing position.

A still further object of the invention is the provision of a mixing machine of the character stated which shall be simple, durable and efficient, which shall be light and comprise comparatively few parts, and which can be manufactured and sold at a comparatively low cost.

The foregoing and other objects are attained by the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, wherein:

Figure 1 is a view in side elevation of a mixing machine constructed in accordance with my invention, the drum being shown in one of its mixing positions,

Figure 2 is a view in side elevation of the mixing machine with the drum shown by solid lines in its loading position and by dotted lines in its dumping or discharging position,

Figure 3 is a view in rear elevation of the mixing machine,

Figure 4 is a sectional view taken on the plane indicated by the line 4—4 of Figure 1,

Figure 5 is a sectional view illustrating in detail the drum rotating means and the manner in which it is connected to the drum, the section being taken on the plane indicated by the line 5—5 of Figure 3,

Figure 6 is a detail sectional view taken on the plane indicated by the line 6—6 of Figure 5,

Figures 7 and 8 are similar views, taken respectively on the planes indicated by the line 7—7 of Figure 4, and the line 8—8 of Figure 3,

Figure 9 is a sectional view illustrating a slightly modified form of one of the blades or agitators of the drum, and

Figure 10 is a detail view illustrating the manner in which the hand crank is adapted to hold the drum in loading position.

Corresponding and like parts are referred to in the following description, and designated in the several views of the accompanying drawings, by similar reference characters.

The mixing machine comprises a stand which consists of inverted V-shaped side pieces 2, rear cross bars 3, a top cross bar 4, and arms 5 extending upwardly from and secured to the top portions of the side pieces 2. A U-shaped stirrup 6 rotatably supporting a drum 7 and the drum rotating means, has the free ends of its side members 8 pivoted to the upper ends of the arms 5 by bolts 9. The drum 7 is provided with a bottom 10 which is of considerable thickness and secured in place by rivets 11 and which is provided with a centrally located screw threaded opening 12. The other end of the drum 7 is closed by a removable cover 13 provided with radially extending handles 14. The drum 7 is provided with agitators or stirrers each of which may, as shown in Figure 4, consist of a pair of relatively spaced and longitudinally extending bars 15 carried by brackets 16 secured to the lateral wall of the drum. As shown in Figure 9, each agitator may consist of a board 17, and if desired the drum 7 may be provided with both forms of agitators. A bracket consisting of a body portion 18 and arms 19 and 20, which latter are angularly related and extending in opposite directions from the ends of the body, is secured to the cross member 21 of the stirrup 6 by bolts 22 passing through a lug 23 on the under side of the arm 19 and engaging said cross member. A shaft 24 journaled in the arm 19 and projecting beyond both ends thereof, has one end thereof secured to the bottom 10 of the drum 7 and has secured to its other end a

bevel gear wheel 25. The ends of the shaft 24 are screw threaded and one end thereof enters the screw threaded opening 12 of the bottom 10 and its other end enters the screw threaded opening 26 in the gear wheel 25. To permit the shaft 24 to be lubricated a grease cup 27 is carried by the bracket arm 19. A shaft 28 journaled in the bracket body 18 and arm 19 has secured thereto a bevel pinion 29 meshing with the bevel gear wheel 25. A hand crank 30 is threaded on the shaft 28, and it together with this shaft, the shaft 24, the bevel gear 25, and the bevel pinion 29, constitutes means by which the drum 7 may be manually rotated.

The pivots 9 are located rearwardly beyond the transverse center of the drum 7 in order to permit the drum to gravitate when released from an upwardly and forwardly inclined or a horizontal mixing position to a downwardly and forwardly inclined discharging position. The inclined mixing position of the drum 7 is shown in Figure 1 and its discharging position is shown by dotted lines in Figure 2. A latch lever 31 provided with an angular lower end 32 and an angular upper end 33 is pivoted at its lower end to one of the side pieces 2 by a bolt 34 and is provided with notches 35 and 35a. A keeper 36 is secured to the cross member 21 of the stirrup 6 by rivets 37 and is adapted to be received by one of the notches 35 or 35a. The notches 35 and 35a permit the lever 31 to support the drum 7 in either its horizontal or in its inclined mixing position. The lever 31 is yieldingly held in engagement with the keeper 36 by a spring 38 secured at one end to one of the arms 5 and at its other end to the lever.

A hand rest 39 is secured to the upper side of the bracket arm 20. The side piece 2 to which the lever 31 is pivoted limits the movement of the lever 31 under the influence of the spring 38. The hand crank 30 is adapted, as shown in Figures 2 and 10, to hold the drum 7 in an upwardly and rearwardly inclined loading position, and when the drum is in this position the hand crank 30 engages a pin 40 caried by the top cross bar 4. To permit it to be engaged with the pin 40, the hand crank 30 is provided with a notch 41.

It should be understood that the drawings are merely illustrative and do not pretend to give exact proportions. Furthermore, the said drawings are illustrative of a preferred construction, it being my expectation that various changes and modifications may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A mixing machine comprising a stand, a stirrup pivoted to the stand, means releasably holding the stirrup against movement, a bracket secured to the stirrup and including angularly related arms, a shaft journaled in one of said arms, a drum secured to the shaft, a second shaft journaled in the other of said arms, meshing gears carried by said shafts, and a hand crank secured to said second shaft.

2. A mixing machine comprising a stand, a stirrup pivoted to the stand, a keeper secured to the stirrup, a spring pressed lever pivoted to the stand and having spaced notches to permit of its selective engagement with the keeper, a drum rotatably connected to the stirrup, and drum rotating means carried by the stirrup.

3. A mixing machine comprising a bracket having oppositely extending and angularly related arms, a support to which one of said bracket arms is secured, a shaft journaled in such bracket arm, a drum secured to said shaft, a second shaft journaled in the other bracket arm, meshing gears carried by said shafts, and a hand crank secured to said second shaft.

4. A mixing machine comprising a stand, a drum rotatably mounted on the stand and rockable thereon into loading and mixing positions, means for releasably holding the drum in mixing position, an element carried by the stand, and means for rotating the drum while in mixing position and adapted to cooperate with said element on the stand when the drum is in loading position to releasably hold it in such latter position.

5. A mixing machine comprising a stand, a drum rotatably supported by the stand and rockable thereon into loading and mixing positions, means for releasably holding the drum in mixing position, an element carried by the stand, and means for rotating the drum while in mixing position and including a hand crank, said crank being provided with a notch to permit it to be engaged with said element on the stand when the drum is in loading position to releasably hold the drum is such position.

6. A mixing machine comprising side pieces, a top cross bar connected to the side pieces, arms extending upwardly from the side pieces, a pin carried by the cross bar, a stirrup pivoted at its ends to the upper ends of the arms, a drum rotatably supported by the stirrup, means coperating with one of the side pieces and stirrup to releasably hold the drum in mixing position, and drum rotating means including a hand crank, said means being carried by the stirrup and said crank being provided with a notch to permit it to be engaged with the pin to releasably hold the drum in loading position.

7. A mixing machine comprising side pieces, bars connecting the side pieces, arms extending upwardly from the side pieces, a stirrup pivoted at its ends to the upper ends of the arms, a drum rotatably carried by

the stirrup, drum rotating means caried by the stirrup, a keeper secured to the stirrup, a lever provided with angular upper and lower ends, an element pivoting the lower angular end of the lever to one of the side pieces, said lever being provided adjacent its angular upper end and in said end with notches to permit of its selective engagement with the keeper, and a spring connected to one of the arms and lever to hold the latter in engagement with the keeper.

In testimony whereof I affix my signature.

NEWTON M. ANDERSON.