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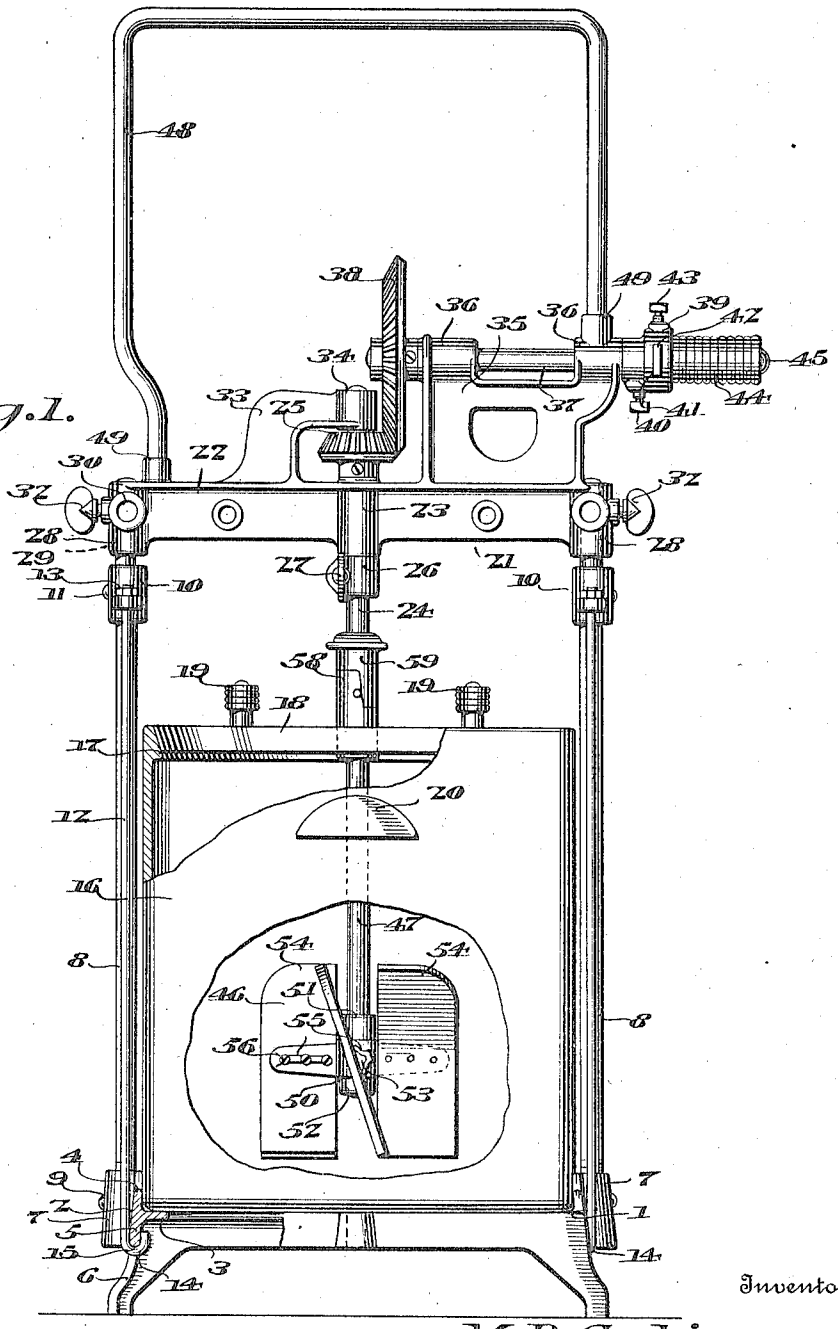
APPLICATION FILED SEPT. 23, 1914.

1,181,869.

Patented May 2, 1916.

5 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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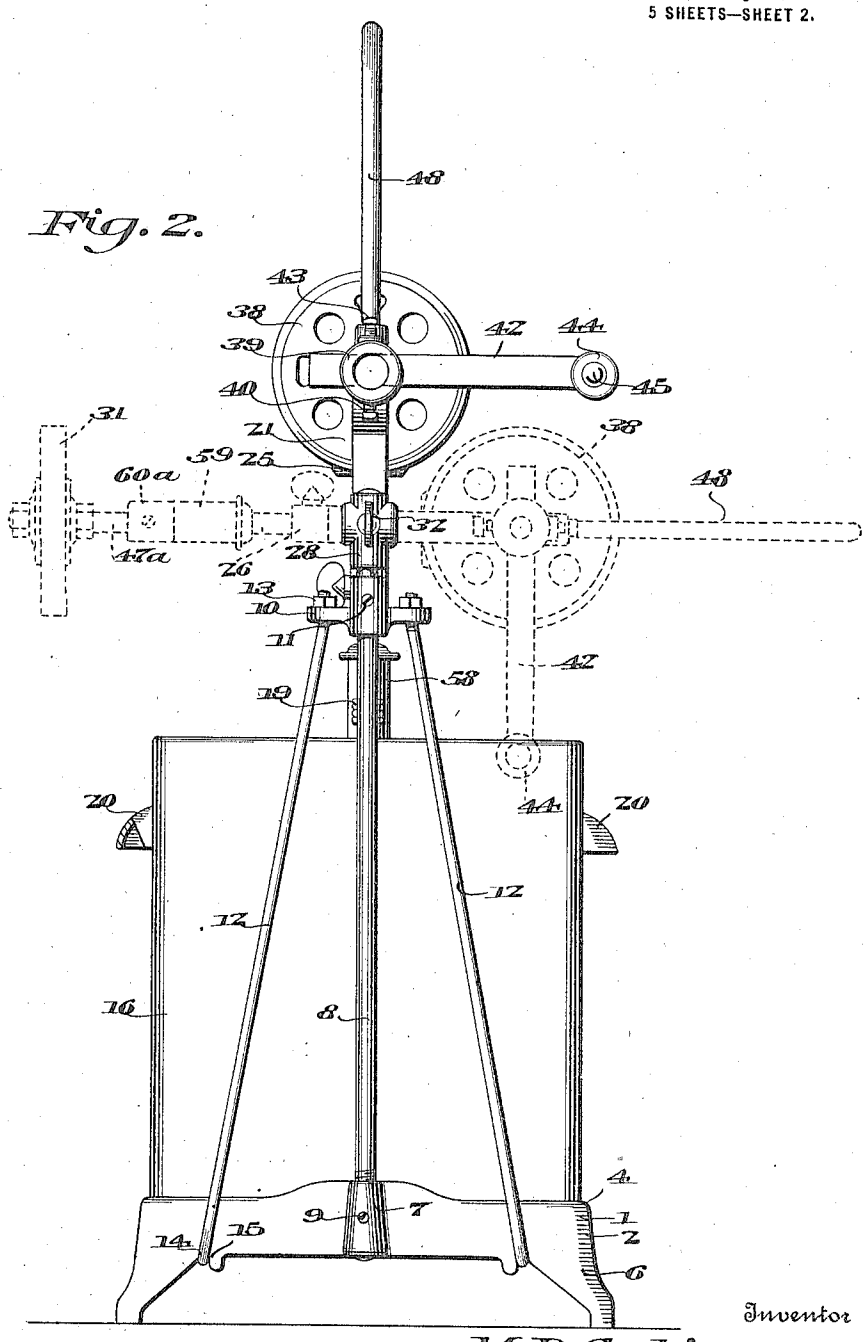
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5 SHEETS—SHEET 2.

Fig. 2.



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5 SHEETS—SHEET 3.

Fig. 3.

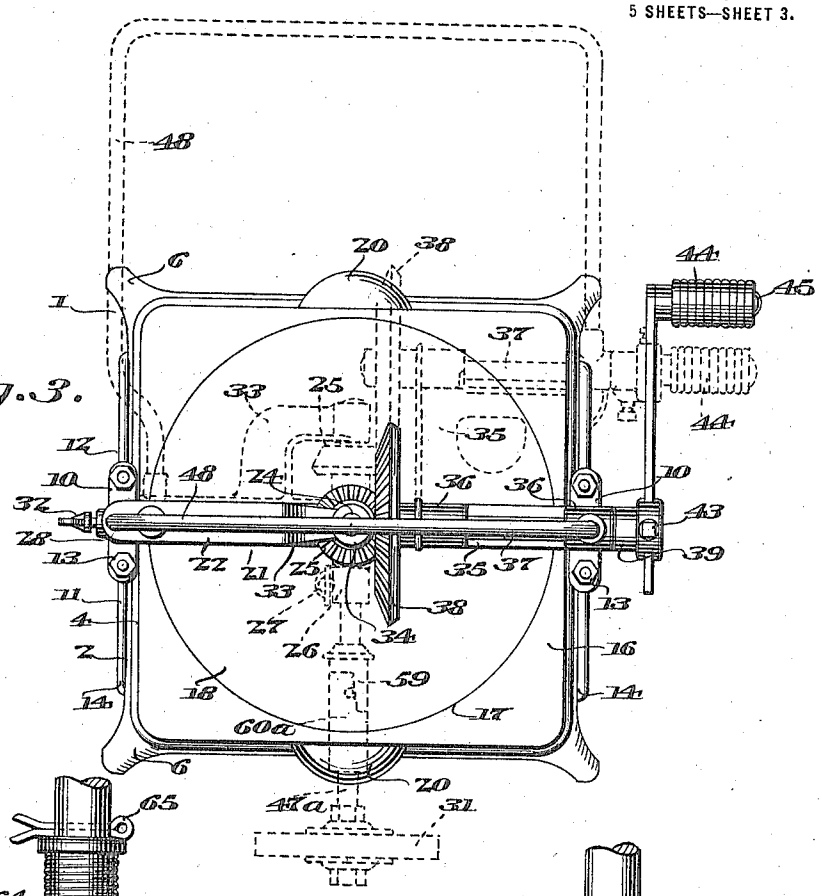


Fig. 5.

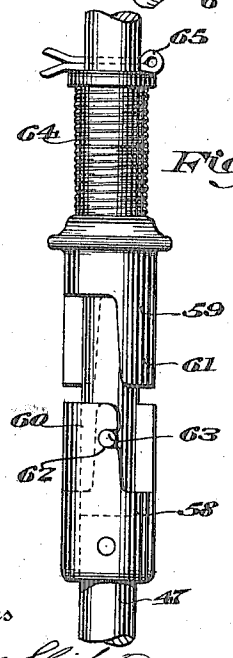
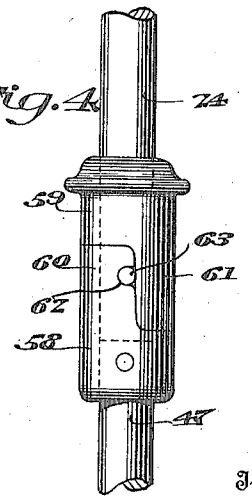


Fig. 4.



Witnesses

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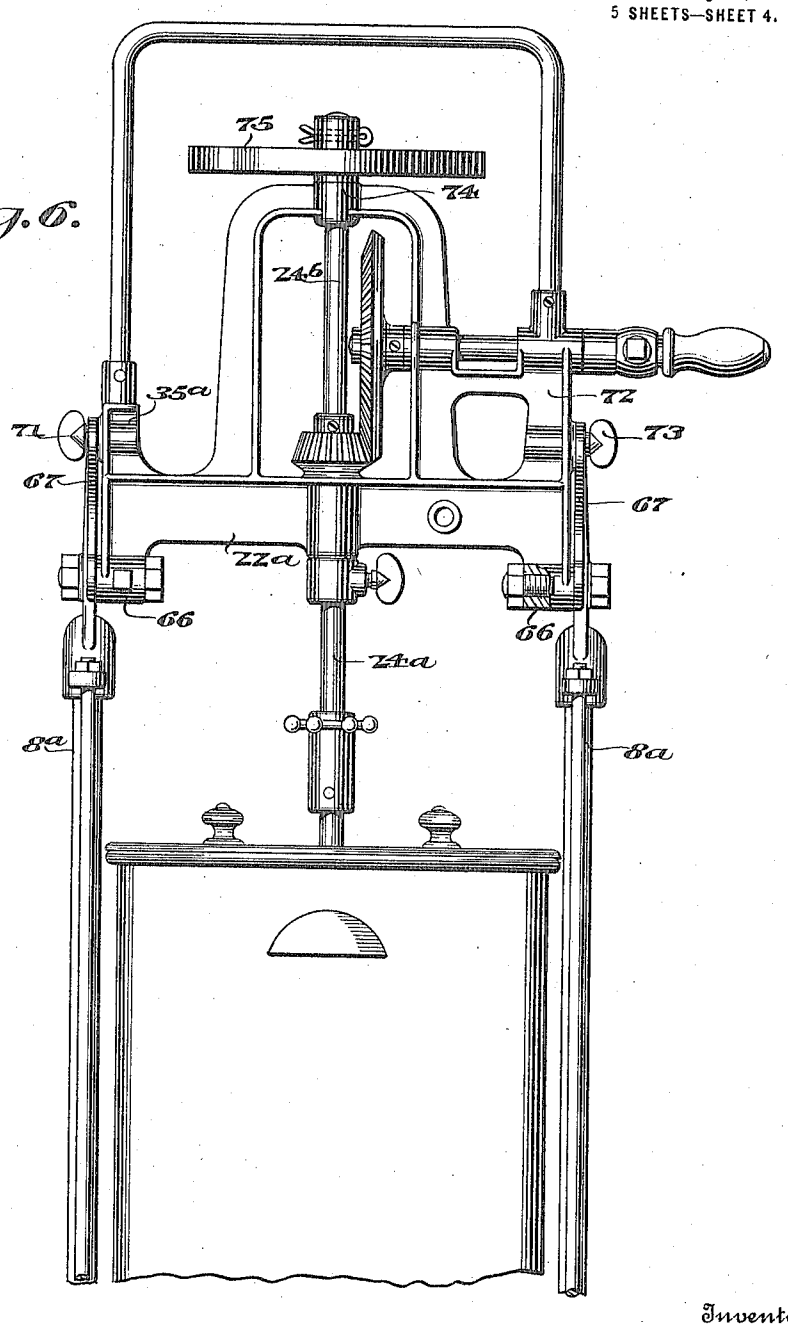
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5 SHEETS—SHEET 4.

Fig. 6.



Witnesses

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5 SHEETS—SHEET 5.

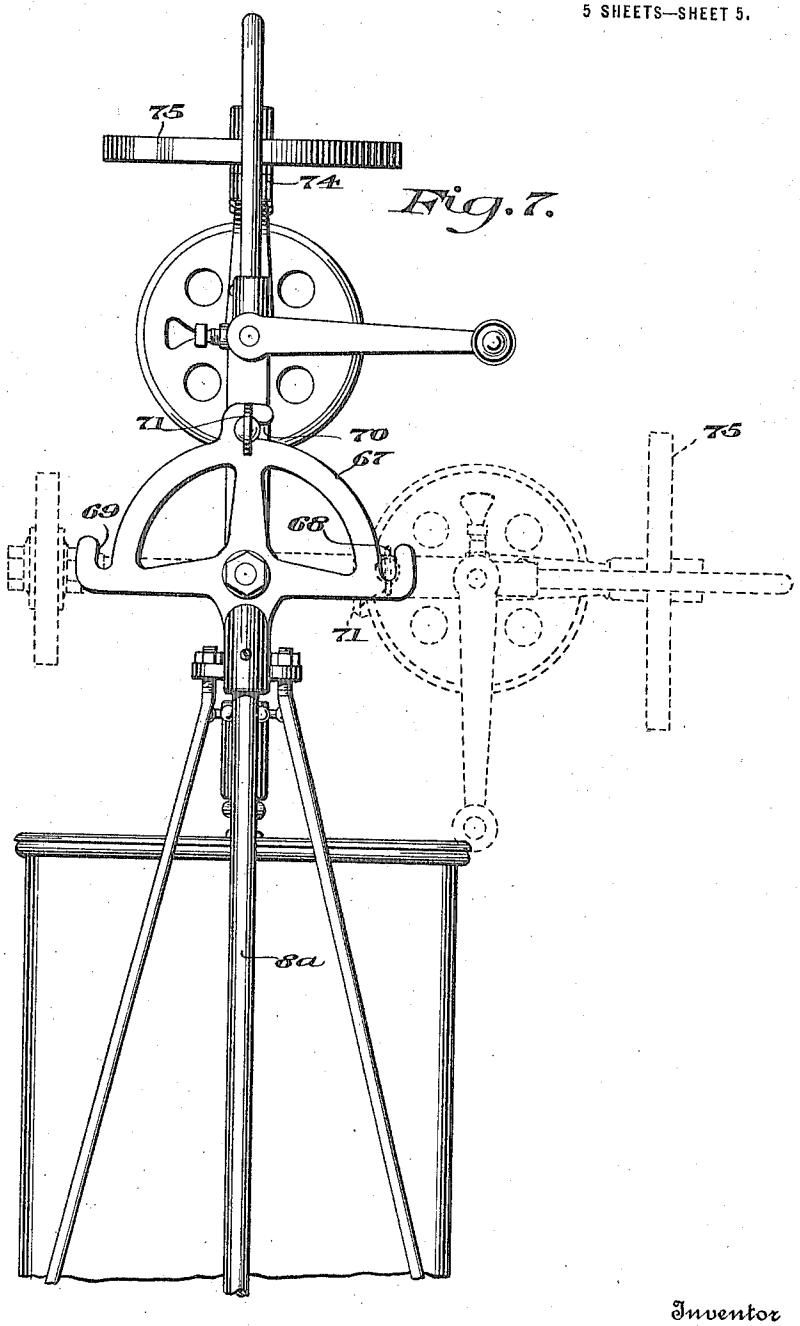


Fig. 7.

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UNITED STATES PATENT OFFICE.

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1,181,869. Specification of Letters Patent. Patented May 2, 1916.

Application filed September 23, 1914. Serial No. 863,175.

To all whom it may concern:

Be it known that I, MAX P. GERBING, a citizen of the United States, residing at Wentworth, in the county of Newton and State of Missouri, have invented new and useful Improvements in Gearing, of which the following is a specification.

This invention is an improved churn and embodies operating mechanism including a frame which may be arranged in vertical position for use as a churn and may be also arranged in horizontal position for use for operating a grindstone, a sauerkraut cutter, an apple peeler and slicer or other like attachment.

One object of the invention is to effect improvements in the construction of the frame in which the operating shafts are mounted.

Another object is to effect improvements in the means for supporting the frame and holding the same in either of its adjusted positions.

The invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a churn constructed in accordance with my invention, with a portion of the base frame in section and with part of the churn body removed and in section so as to disclose the construction of the churn dasher. Fig. 2 is a similar view at right angles to Fig. 1 and showing the frame in vertical position in full lines and in horizontal position in dotted lines to adapt the motor mechanism for operating a grindstone or other desired attachment. Fig. 3 is a plan of the same. Fig. 4 is a detail elevation of the coupling. Fig. 5 is a similar view of a modified form of coupling. Fig. 6 is a side elevation of a modified form of my improved churn. Fig. 7 is a similar view, at right angles to Fig. 6 and showing the frame in vertical position in full lines and in horizontal position in dotted lines.

The base 1 is rectangular in plan with its sides 2 angular in form, cross sectionally so that each side is formed with a horizontally disposed supporting edge 3, an upstanding flange 4 at the outer side of the said web and a depending flange 5 in line with and below the flange 4. Supporting feet 6 are formed at the corners of the frame. At the center of the frame, on opposite sides of, are bosses 7 which are provided with vertical openings for the reception of a pair of standards 8. Said standards are threaded in the said bosses and are also secured by means of screws 9. Cross arms 10 are provided with central openings through which the standards pass and said cross arms are secured on the standards by set screws 11. A pair of inclined upwardly converging brace rods 12 are associated with each standard and its cross arm, the upper ends of the brace rod passing through openings in the cross arms and being secured adjustably thereon by nuts 13, the lower ends of said brace rods being formed with hooks 14 which engage recesses 15 in the lower edges of the opposite sides of the base.

The churn body or vessel 16 is shown as square and with a circular opening 17 in its upper side and the wall of which is beveled inwardly and downwardly and thereby adapted to receive a cover 18 the periphery of which is correspondingly beveled and is adapted to fit snugly in the said opening. The cover is provided with a central opening and is also provided with a pair of suitable handles 19. On opposite sides of the churn vessel are outstanding curved ears 20, which enable the vessel to be readily lifted and placed in or removed from the base.

The frame 21 in which the churn operating mechanism is mounted is provided with a cross bar 22 which is cross sectionally T-shaped. At the center of said cross bar is a bearing 23 in which a shaft 24 is mounted. Said shaft has a beveled gear 25 secured thereon and arranged above the bar. A sleeve or collar 26 is clamped on said shaft by a set screw 27 and bears against the lower side of the bearing 23.

At the ends of the cross bar 22 are heads 28 each of which is provided with intersecting openings 29—30 which are arranged at right angles to each other and are adapted to receive the upper ends of the standards 8. As shown in Fig. 1 the openings 29 are vertical and are engaged by the standards so that the frame and its shaft 24 are held in vertical position, as for operating the churn. When for operating a grindstone 31 or other attachment, as indicated in dotted lines in Fig. 2, the frame 21 may be arranged in horizontal position and with the openings 30 engaged by the standards 8. The heads 28 are provided with set

screws 32 for securing the frame in either of its adjusted positions on the standards.

The cross bar 22 of the frame is provided on its upper side with an angular bracket arm 33 which has a bearing 34 for the shaft 24. A bracket arm 35 is also formed on said cross bar and is provided with bearings 36 for a shaft 37. On the inner end of said shaft is secured a beveled gear 38 which engages the gear 25. A head 39 is secured on the outer end of said shaft by a set screw 40. Said head has a transverse slot 41 extending across the same, at right angles to the shaft and a crank arm 42 passes through said slot, is thereby adjustably connected to the head and may be secured at any desired adjustment by means of a set screw 43 with which said head is provided. A suitable crank handle 44 is mounted to revolve on a bolt pin 45 at the outer end of said crank arm.

It will be understood that when the crank shaft is revolved the gears 38 and 25 revolve the shaft 24, at a higher rate of speed and that hence when the dasher 46 has its shaft 47 coupled to the shaft 24 and is arranged in the churn vessel, the dasher will be revolved in the churn vessel so as to perform the operation of churning therein.

A substantially inverted U-shaped handle bar, to be grasped with one hand, for steadying the machine when the same is in operation, is provided. This handle bar is indicated at 48, its central portion is parallel with and above the cross bar 22 and the ends of its vertical portion are secured in openings in bosses 49 with which one end of the bar 22 and one of the bearings 36 are provided.

The dasher 46 has a hub 50 which is secured on the shaft 47 between a collar 51 and a nut 52. The hub has radial arms 53 and each dasher blade 54 has a sleeve 55 extending across its center on one side and provided with a bore or opening to receive one of the radial arms 53. The said sleeves have set screws 56 to engage said radial arms and hence the dasher blades are detachably secured and may be adjusted to any desired angle with respect to the shaft 47.

The shaft 47 is detachably coupled to the shaft 24 by a coupling which comprises a member 58 secured on the shaft 47 and a member 59 which is slidably mounted on the shaft 24. These members are cylindrical in form and are provided in their opposing ends with lugs 60—61 respectively to lie in overlapped position and the lugs 60 of the member 58 are provided each in one side with recesses 62 to receive the ends of a pin 63 which extends through the shaft 24. When the member 59 is withdrawn on the shaft 24 so that its lugs 61 uncover the recesses 62 the shaft 47 with its member 58 may be partly turned to disengage the ends of the pin 63 from said recesses and thereby enable said shaft 47 to be detached from the shaft 24. When the shafts are coupled the members 61 extend across the recesses 62 and thereby lock the pin 63 in said recesses thus causing the coupling member to securely lock the shaft 47 to the shaft 24. A spring 64 may be employed to normally hold the member 59 in coupling position, the spring being arranged on the shaft 24 and held by a pin 65 which passes through an opening in said shaft. Any other suitable means, such for instance as a clamping sleeve may be substituted for the spring 64 if desired. When an emory-wheel or other like attachment is to be used its shaft 47^a will be provided with a coupling member 60^a for engagement by the coupling member 59.

In the modified form of my invention shown in Figs. 6 and 7 the cross bar 22^a of the frame is provided at its ends, on its lower side, with bearings 66. The standards 8^a are provided with segment heads 67 each of which is provided at opposite sides with slots 68—69 which are open upwardly and each segment head is also provided in its upper side at a point midway between the slots 68—69 with a horizontal slot 70 which is open at the end next the slot 68. The bracket arm 35^a of the frame is provided with a set screw 71 which coacts with one of the segment heads and is arranged in the slot 70 when the frame is in vertical position and in the slot 68 when the frame is in horizontal position. At the other end of the cross bar 22^a is an arm 72 which also has a similar set screw 73 to correspondingly operate with the other segment head in securing the frame in either horizontal or vertical position.

In this form of the invention the shaft 24^a has an extended upper portion 24^b which is mounted in an arch bearing 74 formed on the cross bar 22^a. At the upper end of the said shaft is a fly wheel 75.

Having thus described my invention, I claim:—

1. In a churn, a base, standards rising from the base, a frame supported by said standards and adapted to be arranged either in vertical or in horizontal position, an operating shaft arranged at right angles to said frame and having a bearing therein, a crank shaft arranged parallel with said frame and mounted in bearings thereon and gears connecting said crank shaft and said operating shaft.

2. In a churn, a base, standards rising from the base, a frame supported by said standards and adapted to be arranged either in vertical or in horizontal position, an operating shaft arranged at right angles to said frame and having a bearing therein, a crank shaft arranged parallel with said

frame and mounted in bearings thereon and gears connecting said crank shaft and said operating shaft and a hand bar attached to the said frame.

3. In combination with a base to support a churn vessel, standards rising from the base, cross arms on the standards, brace rods detachably connected to the base and adjustably connected to the cross arms, a frame mounted on said standards and operating mechanism carried by said frame.

4. In combination with a base, standards thereon, a frame adjustably mounted on said standards for arrangement either in a vertical or in a horizontal position, an operating shaft having its bearings in said frame and comprising a pair of members, means to detachably connect said members together and a crank shaft also having bearings in the frame, said crank shaft being geared to said operating shaft.

In testimony whereof I affix my signature in presence of two witnesses.

MAX P. GERBING.

Witnesses:
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W. E. Stinnett.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."