

No. 742,473.

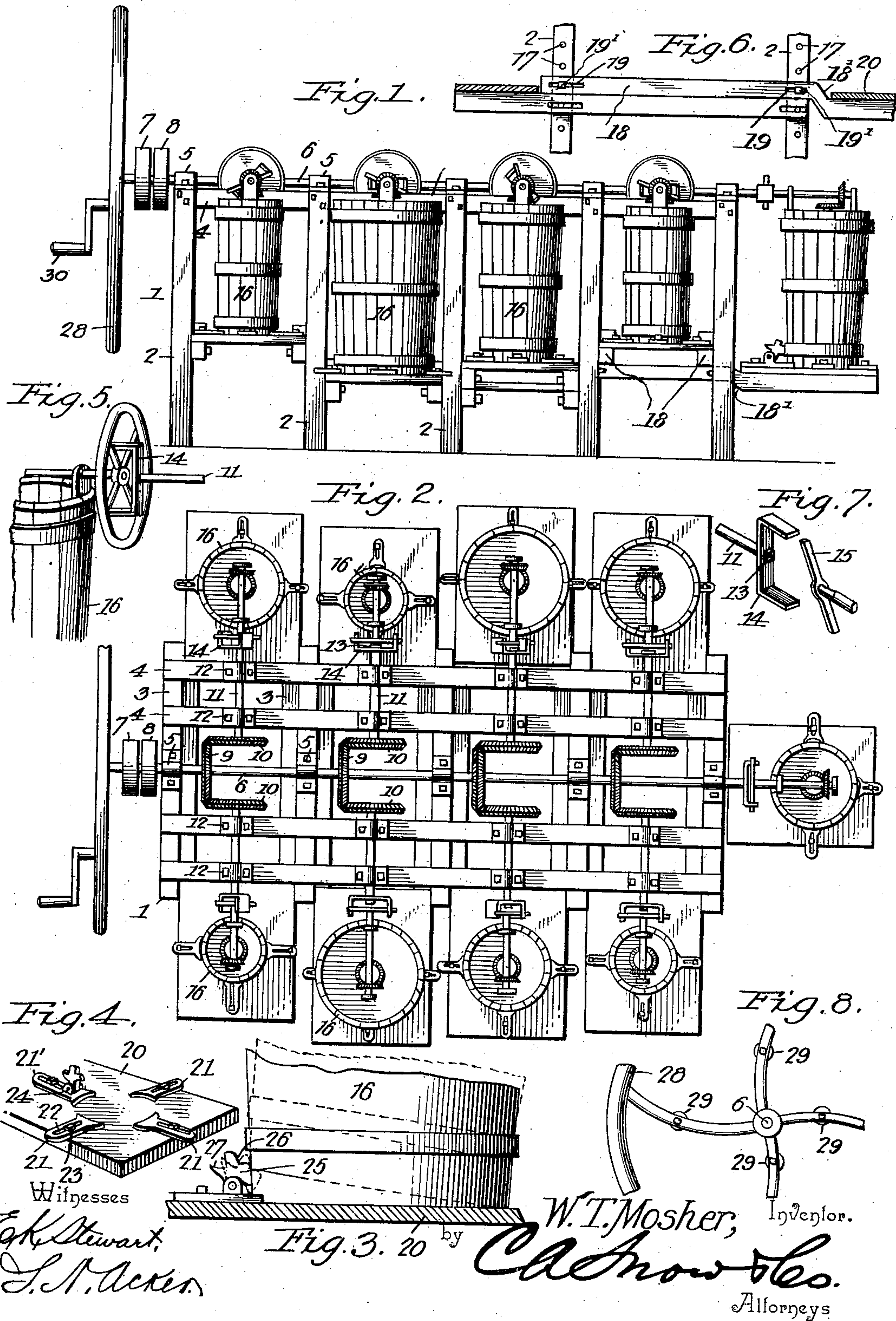
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W. T. MOSHER.

OPERATING MECHANISM FOR ICE CREAM FREEZERS.

APPLICATION FILED AUG. 18, 1903.

NO MODEL.



UNITED STATES PATENT OFFICE.

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OPERATING MECHANISM FOR ICE-CREAM FREEZERS.

SPECIFICATION forming part of Letters Patent No. 742,473, dated October 27, 1903.

Application filed August 18, 1903. Serial No. 169,915. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. MOSHER, a citizen of the United States, residing at Marietta, in the county of Cobb and State of Georgia, have invented a new and useful Operating Mechanism for Ice-Cream Freezers, of which the following is a specification.

This invention relates to certain improvements in operating mechanism for ice-cream freezers, churns, grinding-machines, and the like, and has for its object to provide a simple, inexpensive, and efficient device of this character by means of which a plurality of freezers or other vessels may be operated simultaneously or independently from a common driving-shaft.

A further object of the invention is to provide the frame with a series of adjustable supporting shelves or brackets adapted to accommodate vessels of different sizes and to provide a novel form of clutch for connecting or disconnecting the independent vessels and the operating mechanism without stopping the machine.

A still further object is to provide means for clamping the vessels to the supporting shelves or brackets and to provide a novel form of catch for supporting the vessels in a tilted position after the same have been disconnected from the operating mechanism.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

In the accompanying drawings, Figure 1 is a side elevation of a power operating mechanism constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a detail side elevation of one of the supporting shelves or brackets, showing the freezer supported in the tilted position. Fig. 4 is a detail perspective view of the clamp and catch. Fig. 5 is a detail view showing the manner of connecting the clutch member with the balance-wheel of a freezer. Fig. 6 is a detail sectional view of a portion of the frame,

showing the manner of adjusting the supporting-shelves; and Fig. 7 is a detail perspective view of the clutch members.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the frame, formed of wood or other suitable material and comprising the uprights 2, connected at the top by the cross-beams 3 and longitudinal beams 4. Journaled in suitable bearings 5 in the cross-beams 3 is a driving-shaft 6, provided at one end with a loose pulley 7 and fixed pulley 8, adapted to be driven from any suitable source of power. Keyed to the shaft 6 are a series of spaced bevel-gears 9, adapted to mesh with corresponding bevel-gears 10, secured to counter-shafts 11, journaled in bearings 12 on the longitudinal beams 4.

Mounted on the squared portion of the counter-shafts 11 and secured thereto by means of nuts 13 engaging the threaded ends thereof are clutch members consisting of flat bars 14, the opposite ends of which are bent at right angles, as shown, being adapted to engage corresponding clutch members or flat bars 15, keyed to the respective operating-shafts of the freezers 16 and by means of which motion is transmitted from the main driving-shaft to said freezers.

The uprights 2, any number of which may be employed, are provided with a series of openings 17, and adjustably secured to said uprights are horizontally-disposed supporting-bars 18, provided with elongated slots or openings 19, adapted to receive a bolt or similar fastening device 19', which passes through the openings in the uprights and by means of which said bars may be adjusted both vertically and laterally to accommodate different-sized vessels. The bars 18 are preferably arranged in pairs one above the other, each pair extending in opposite directions a short distance beyond the side of the frame, as shown, being connected by a shelf or bracket 20, which forms a support for the freezers or other vessels 16. In order to support and operate several freezers of the same size at the same time, I form one of the supporting-bars 18 of each pair with an offset 18', which permits said bars being adjusted so as to bring the brackets or shelves 20 in horizontal alinea-

ment, as clearly shown in Fig. 6 of the drawings. Secured to the shelves or brackets 20 are adjustable clamps 21, adapted to embrace the lower edge of the freezers and prevent the same from being accidentally displaced, said clamps being provided with slots 22, adapted to receive set-screws 23, by means of which the clamps are adjusted.

The clamp 21' adjacent the frame is provided with upwardly-extending ears or lugs 24, between which is pivoted a catch 25, provided with a shoulder 26 and a suitable handle 27, said catch being adapted to engage the lower rim of the freezer, as clearly shown in Fig. 3 of the drawings, and by means of which any particular freezer may be supported out of contact with its corresponding clutch member when it is desired to repack the freezer or introduce additional flavoring in the cream without stopping the machine.

The main driving-shaft is provided with a balance-wheel 28, to the spokes of which are secured at unequal distances from the hub thereof sockets 29, adapted to receive a suitable crank-handle 30, by means of which the machine may be operated manually and the leverage regulated according to the number of freezers being operated at one time.

A clutch member similar to the clutch members on the counter-shafts 11 is preferably secured to the end of the main driving-shaft 6, and arranged beneath the shaft is a corresponding bracket adapted to support a freezer at the end of the frame, as shown.

The construction of my device will be readily understood, and the operation thereof is as follows: Power is applied to the main driving-shaft either manually, by turning the crank-handle 30, or through the medium of the fixed pulley. The supporting shelves or brackets are then adjusted to accommodate the height of the freezers and the freezers secured in position thereon by adjusting the clamps 21, which causes the bars 15 to engage the clutch members 14, and thereby operate said freezers. Any particular freezer may be disconnected from its corresponding clutch member without stopping the machine by simply tilting the freezer, thereby causing the catch to engage the bottom thereof and support said freezer in a tilted position and out of gear with the main operating-shaft, as clearly shown in Fig. 2 of the drawings.

When the freezers or other vessels are provided with a balance-wheel, the bar 15 may be dispensed with, the clutch member 14 engaging the spokes of the wheel and causing the same to rotate when power is applied to the main driving-shaft, as illustrated in Fig. 5.

From the foregoing description it will be seen that I have provided an extremely simple, inexpensive, and durable power operating mechanism by means of which one or more freezers, churns, and similar vessels may be operated and thrown into and out of gear with the driving-shaft independently of each other.

Having thus described the invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with a frame, brackets secured to the frame, vessels supported by the brackets, a driving-shaft, gears secured to the driving-shaft, counter-shafts provided with gears meshing with the gears on the driving-shaft, independent clutch member secured to the counter-shafts and adapted to engage corresponding clutch members carried by the vessels, and means for driving the shaft.

2. In a device of the class described, the combination with a frame, adjustable brackets secured to the frame, vessels supported by the brackets, a driving-shaft, spaced gears secured thereto, counter-shafts provided with gears meshing with the gears on the driving-shaft, clutch members secured to the counter-shafts and adapted to engage corresponding clutch members carried by the vessels, means for supporting the vessels on the brackets and means for driving the shaft.

3. In a device of the class described, the combination with a frame, adjustable brackets secured to the frame, vessels supported by the brackets, a driving-shaft, spaced gears secured thereto, counter-shafts provided with gears meshing with the gears on the driving-shaft, independent clutch members carried by the counter-shafts and adapted to engage corresponding clutch members on the vessels, means for disconnecting any one of said vessels from its counter-shaft and means for driving the shaft.

4. In a device of the class described, the combination with a frame, adjustable brackets secured thereto, vessels supported by the brackets, a driving-shaft, spaced gears secured thereto, counter-shafts provided with gears meshing with the gears on the driving-shaft, clutch members secured to the counter-shafts and adapted to engage corresponding clutch members carried by the vessels, means carried by the brackets for supporting the vessels out of contact with the counter-shafts and means for driving the shaft.

5. In a device of the class described, the combination with a frame, adjustable brackets secured thereto, vessels supported by the brackets, a driving-shaft, spaced gears secured thereto, counter-shafts provided with gears meshing with the gears on the driving-shaft, clutch members secured to the counter-shafts and adapted to engage corresponding clutch members carried by the vessels, adjustable clamps secured to the brackets and adapted to engage the vessels, a catch pivoted to one of the clamps for supporting the vessels out of contact with the counter-shafts, and means for driving the shaft.

6. In a device of the class described, the combination with a frame, adjustable brackets secured thereto, vessels provided with operating-shafts having clutch-bars secured thereto supported by the brackets, a driving-

shaft journaled in the frame, gears secured thereto, counter-shafts provided with gears meshing with the gears on the driving-shaft, clutch-bars provided with outwardly-projecting ears or lugs secured to the counter-shafts and adapted to engage the clutch-bars or the vessels, means for supporting said clutch members out of engagement with each other and means for driving the shaft.

10 7. In a device of the class described, the combination with a frame, a plurality of vertically and laterally adjustable brackets secured to the frame, vessels provided with operating-shafts supported by the brackets, 15 a driving-shaft, spaced gears secured thereto, counter-shafts provided with gears adapted to mesh with the gears or the driving-shaft journaled in the frame and disposed above the brackets, independent clutch members 20 secured to the counter-shafts and adapted to engage the operating-shafts of the vessels, means for clamping the vessels to the brackets, and means for driving the shaft.

8. In a device of the class described, the

combination with a frame, openings formed 25 in the uprights of the frame horizontally disposed, slotted bars adjustably secured to the frame, bolts passing through the slots in the bars and the openings in the uprights, a bracket secured to the ends of the slotted 30 bars, vessels provided with operating-shafts supported on said brackets, a driving-shaft journaled in the frame, spaced gears secured thereto, counter-shafts provided with gears adapted to mesh with the gears or the driving-shaft disposed above the brackets, independent clutch members secured to the counter-shafts and adapted to engage the operating-shafts of the vessels, means for supporting the vessels out of contact with the counter-shafts, and means for driving the shaft. 40

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM T. MOSHER.

Witnesses:

J. P. CHENEY,
E. P. GREEN.