

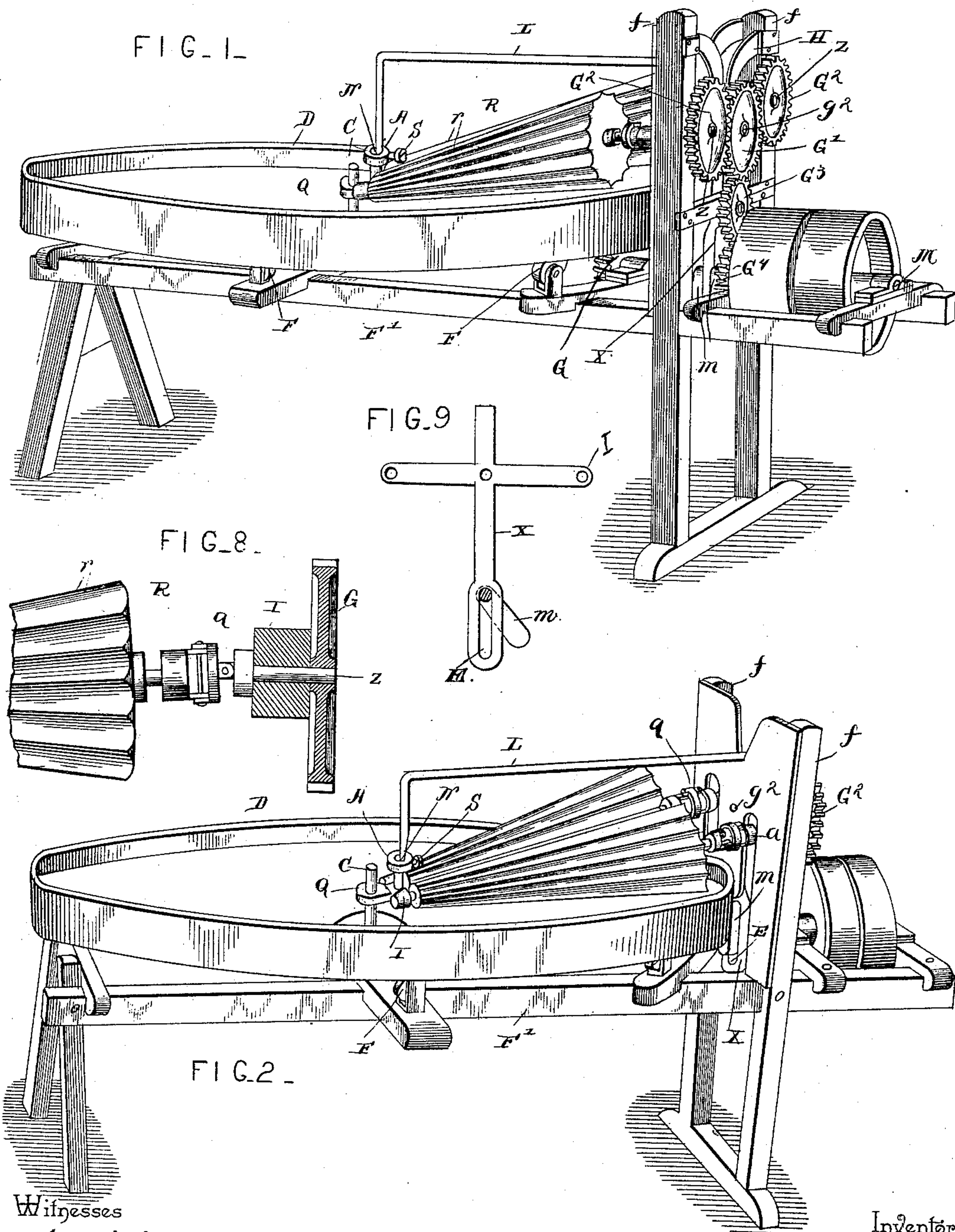
(No Model.)

2 Sheets—Sheet 1.

E. J. FARGO.
BUTTER WORKER.

No. 461,936.

Patented Oct. 27, 1891.



Witnesses

Geo. E. Trech.

N. L. Gollamer.

Inventor

Enoch J. Fargo

By *His Attorneys,*

C. A. Snow & Co.

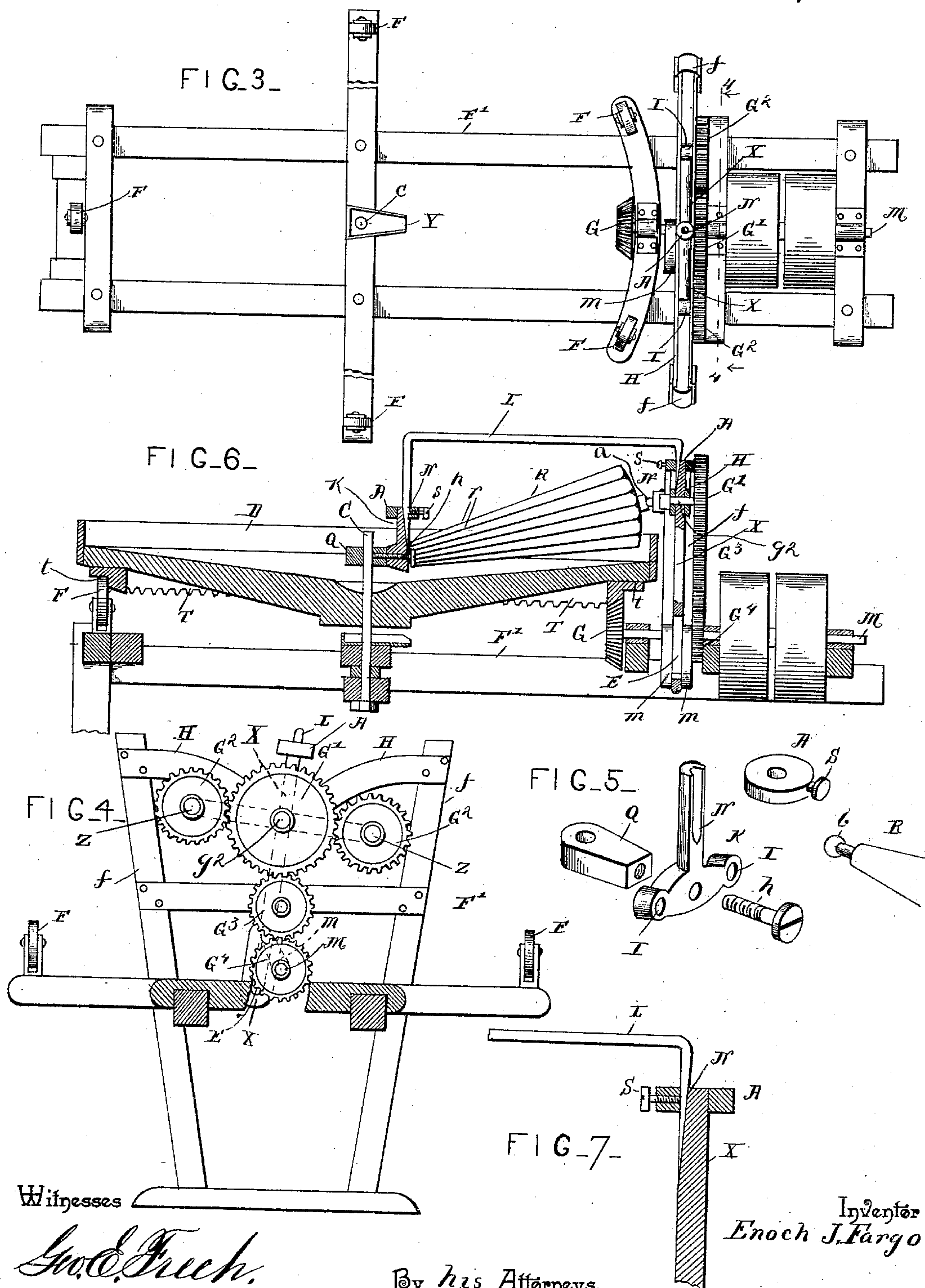
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Geo. C. French.

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By his Attorneys,

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UNITED STATES PATENT OFFICE.

ENOC H J. FARGO, OF LAKE MILLS, WISCONSIN.

BUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 461,936, dated October 27, 1891.

Application filed March 4, 1891. Serial No. 383,764. (No model.)

To all whom it may concern:

Be it known that I, ENOC H J. FARGO, a citizen of the United States, residing at Lake Mills, in the county of Jefferson and State of Wisconsin, have invented a new and useful Butter-Worker, of which the following is a specification.

This invention relates to butter-workers; and the object of the same is to provide a device of this character possessing a new movement in this class of machines.

To this end the invention consists of the details of construction hereinafter more fully described and claimed, and as illustrated in the two sheets of drawings, wherein—

Figure 1 is a general perspective view of this machine. Fig. 2 is another perspective view looking from a different point. Fig. 3 is a plan view of Fig. 2, omitting the rollers and table. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is an enlarged perspective detail of the bracket at the inner end of one of the rollers. Fig. 6 is a central longitudinal section of the entire machine. Fig. 7 is an enlarged section through the upper end of the cross, the collar, and the rod. Fig. 8 is an enlarged section through the outer end of one of the horizontal arms of the cross and a plan of the universal joint. Fig. 9 is a detail of the cross and the crank operating in the slot.

Referring to the said drawings, the letter F' designates a suitable frame-work carrying friction-rollers F and having a central pivot-pin C, upon which is journaled a slightly concaved or dished table or disk D. On the lower face of this disk is a track *t* having a toothed ring T, and the former moves over the friction-rollers F while the latter engages a gear-wheel G, mounted upon the main shaft M, which has fast and loose pulleys, as shown, and is adapted to be driven from a suitable source of power in a well-understood manner forming no part of the present invention. Two of the bars of the frame-work F' rise above the disk or table D, as shown at *f*, and are connected at their upper ends by a horizontal bar H, and pivoted at *g*² in this bar is an X-shaped casing, which I will call the "cross" X. The lower end of the vertical member of this cross is provided with an elongated slot E, that engages a crank *m* in the

shaft, as seen in dotted lines in Fig. 4. The outer ends of the horizontal arms are provided with bearings or eyes I, and the upper end of the vertical arm is grooved or notched, as at N, Fig. 7, a collar A surrounding this upper end and having a set-screw S there-through.

In Fig. 5 is shown a bracket K, whose outer ends have eyes I and whose upper end has a notch N and a collar A', the same as the cross, and whose body is pivotally connected by a horizontal screw *h* with a block Q loosely mounted upon the center pin C.

The letter L designates a rod which connects the upper ends of the cross and the bracket. The ends of this rod are bent downwardly, as shown, and are seated in the notches N in the upper ends of the cross and the bracket, the collar A surrounding these ends, and the set-screws S holding the parts in position. The upper end of the shaft of each roller connects by a universal joint *a*, with a stub-shaft Z, journaled in each eye I at the ends of the cross X. These shafts Z carry gears G² on their other ends, which are in constant mesh with a gear G', journaled on the pivot *g*² of the cross, but outside the bar H. Below the gear G' is an idle-gear G³, which communicates motion from a gear G⁴ on the shaft M to the gears G', and thence to the two rollers, no matter at what position the latter stand.

R R are rollers, preferably conical and with longitudinal grooves separated by ribs *r*, and through each roller extends a shaft whose lower end has a rounded head *b*, which is journaled in the eye I of the bracket. Power being applied to the main shaft the gear-wheel G causes the table D to rotate. At the same time the crank *m* causes the cross X to oscillate about its pivot *g*² in the bar H, and a simultaneous oscillation is imparted by the rod L to the bracket K. One of the rollers R, standing at each side of the rod L, and being connected at its ends with the bracket and the cross. As these latter are rocked, the roller rises and falls oppositely to the other roller. By adjusting the screws *h* the block Q can be moved vertically upon the center pin C, and the inner ends of the rollers are thus raised or lowered, the depending ends of the rod L being suitably adjusted, as may

be required. The butter to be worked is placed upon the table D and passes first under one roller and then under the other, the rollers turning by the gearing from the shaft, as will be understood. The dishing shape of the table causes the buttermilk to run to the center thereof and pass downwardly through the hole around the center pin C, and a suitable trough Y, leading therefrom, conducts it to a receptacle. The ball-and-socket joints at the inner ends of the rollers permit the latter to turn and to move slightly out and in when the bracket is raised or lowered, and this rising and lowering is to adapt the machine to do more or less work, as will be well understood by a person familiar with the working of butter. The universal joints at the outer ends of the rollers keep them constantly connected to and rotated by their driving-gears, and the latter are of course in perfect mesh at all times with the central gear G'.

What is claimed as new is—

1. In a butter-worker, the combination, with a dished circular rotating table, of a pair of conical rollers above the same and means for raising and lowering them alternately and intermittently, substantially as described.

2. In a butter-worker, the combination, with a frame-work, a main shaft therein having a gear and a crank, and a rotating disk or table mounted on a central pin in said frame-work and having a toothed rack engaging said gear, of extensions from the frame-work connected by a horizontal bar, a cross pivoted to said bar and oscillated by said crank, a bracket pivotally connected to said pin, and rollers journaled in said bracket and in the horizontal arms of said cross, substantially as described.

3. In a butter-worker, the combination, with a frame-work, a central pin rising therefrom, a rotating disk or table mounted on said pin, a horizontal bar connected to said frame-work, a cross pivoted to said bar, and means for oscillating the cross, of a block adjustably mounted upon said pin, a bracket pivoted to said block, a rod connecting said cross and bracket, the latter member having eyes in its outer ends, and rollers connected by ball-and-socket joints with said eyes, and by universal joints with the cross, substantially as described.

4. In a butter-worker, the combination, with a frame-work, a central pin rising therefrom, a rotating disk or table mounted on said pin, and a horizontal bar connected to the frame-work, of a cross pivoted to said bar, means for oscillating said cross on its pivot, a bracket pivotally connected to said central pin and having eyes in its ends, rollers having balls at the lower ends of their shafts journaled in said eyes, their upper ends being journaled in the horizontal arm of said cross, grooves in the upper ends of the cross and the bracket,

and a rod having depending ends detachably seated in said grooves, all substantially as described.

5. In a butter-worker, the combination, with a rotating circular table, an upright rotating gear, an arm pivoted at its inner end on the shaft of said gear, a stub-shaft at the outer end of said arm, and a gear on the stub-shaft driven by the first gear, of a roller loosely supported at one end at the center of the table, a universal joint between its other end and said stub-shaft, and means for raising and lowering said arms, substantially as described.

6. In a butter-worker, the combination, with a frame-work, a main shaft therein having a gear and a crank, and a rotating disk mounted on a central pin in said frame-work and having a toothed rack engaging said gear, of extensions from the frame-work connected by a horizontal bar, a cross pivoted to said bar and oscillated by said crank, a bracket pivotally connected to said pin, rollers journaled in said bracket and in the horizontal arms of said cross, and means for revolving the rollers, substantially as described.

7. In a butter-worker, the combination, with a frame-work, a central pin rising therefrom, a rotating disk mounted on said pin, a horizontal bar connected to said frame-work, a cross pivoted to said bar, means for oscillating the cross, stub-shafts journaled in the horizontal arms of said cross, gears on said shafts, a gear journaled on the pivot of the cross and engaging said stub-shaft gears, and means for driving the pivot-gear, of a block adjustably mounted upon said pin, a bracket pivoted to said block, a rod connecting said cross and bracket, the latter member having eyes in its outer ends, and rollers connected by ball-and-socket joints with said eyes and by universal joints with said stub-shafts, substantially as described.

8. In a butter-worker, the combination, with a frame-work, a central pin rising therefrom, a rotating disk mounted on said pin, a horizontal bar connected to said frame-work, a cross pivoted in said bar, means for oscillating the cross, stub-shafts journaled in the horizontal arms of said cross, gears on said shafts, a gear journaled on the pivot of the cross and engaging said stub-shaft gears, and means for driving the pivot-gear, of a block adjustably mounted upon said pin, and rollers connected to said block and to said stub-shafts, substantially as hereinbefore described.

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

ENOCH J. FARGO.

Witnesses:

C. F. GREENWOOD,
S. B. HOUSE.