

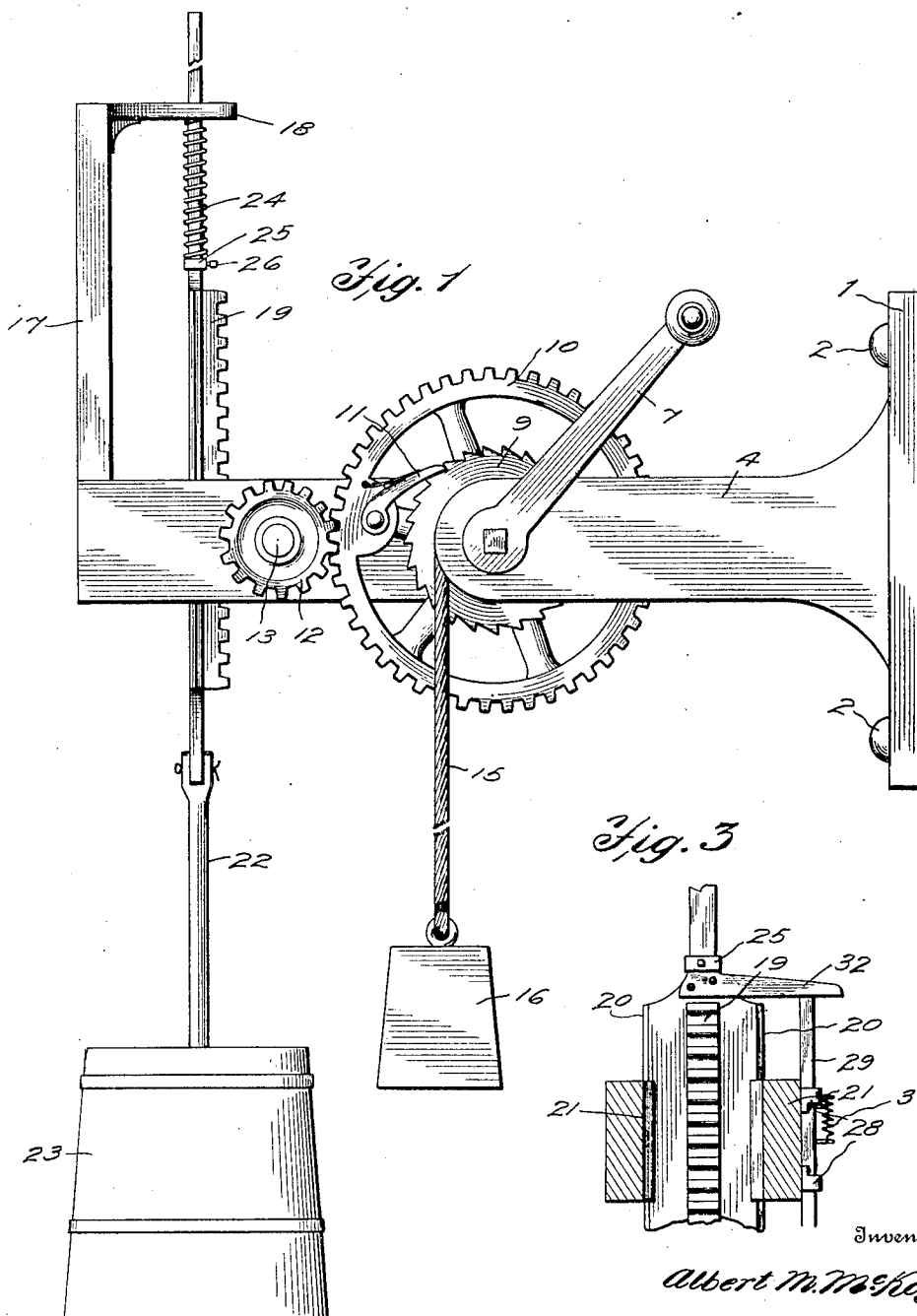
No. 871,732.

PATENTED NOV. 19, 1907.

A. M. McROY.
CHURN.

APPLICATION FILED MAY 1, 1907.

2 SHEETS—SHEET 1.



Witnesses

R. C. Clafflin

A. M. McRoy

Inventor

Albert M. McRoy

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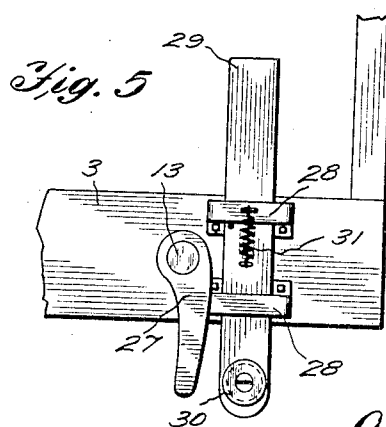
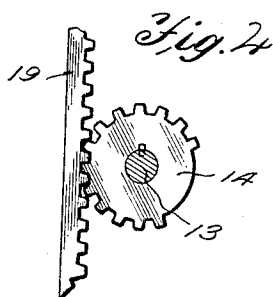
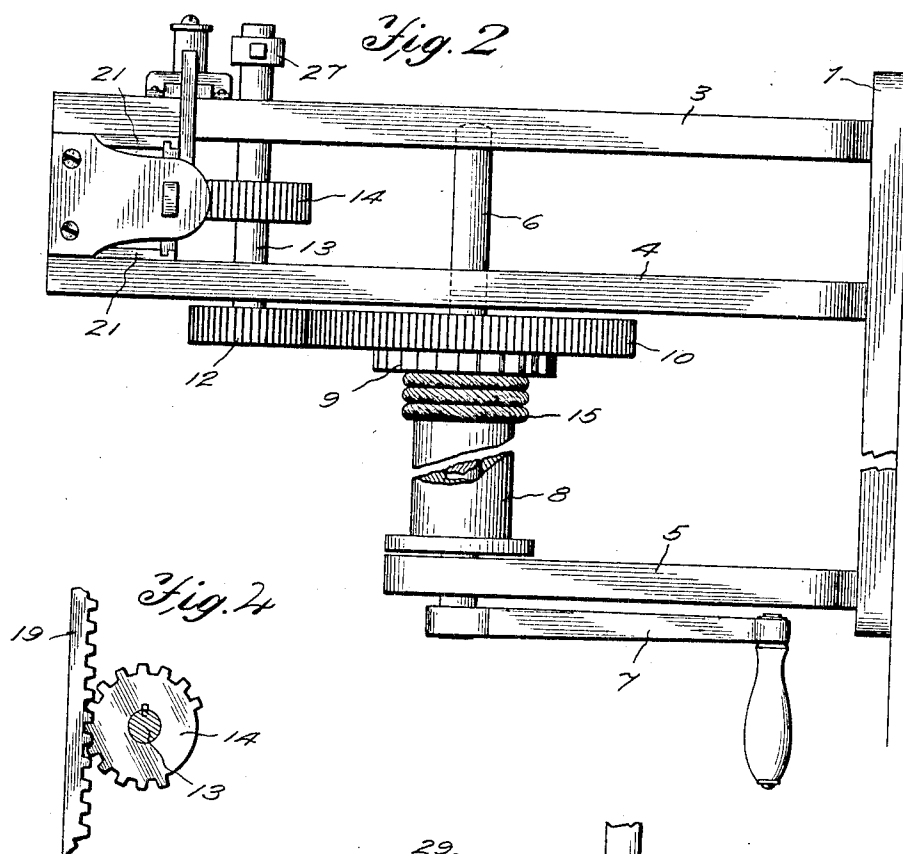
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UNITED STATES PATENT OFFICE.

ALBERT M. McKOY, OF STONEWALL, INDIAN TERRITORY.

CHURN.

No. 871,732.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed May 1, 1907. Serial No. 371,336.

To all whom it may concern:

Be it known that I, ALBERT M. McKOY, a citizen of the United States of America, residing at Stonewall, in District 16, Indian Territory, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates to churns, and one of the principal objects of the same is to provide simple and efficient mechanism for operating the churn, said mechanism comprising means for lifting the dasher rod against the tension of a spring which will force the dasher rod downward, said mechanism being provided with a weight for lifting the dasher rod against the tension of the spring.

Another object of the invention is to provide simple, reliable and efficient means for actuating churn dashers by means of a compound spring and weight mechanism.

These and other objects may be attained by means of the construction illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of a churn operating mechanism made in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail section showing the rack bar and its connected parts. Fig. 4 is a detail view showing a portion of the rack bar and the mutilated pinion for moving the bar. Fig. 5 is a detail view showing the stop mechanism.

Referring to the drawings for a more particular description of my invention, the numeral 1 designates a bracket adapted to be secured to a rigid support by means of bolts or screws 2, and extending horizontally from the bracket 1 is a pair of parallel arms 3, 4, and a shorter arm 5 located at some distance therefrom. A shaft 6 is journaled in the arm 3 and extends through the arms 4 and 5, and is provided with a crank 7 fitted to the squared outer end thereof outside the arm 5. Secured to the shaft 6 is a winding drum 8 carrying a ratchet wheel 9 at one end thereof, and fitted to the shaft 6 at the side of the ratchet wheel 9 is a spur gear wheel 10 which carries a pawl 11 adapted to engage the teeth of the ratchet wheel 9. The gear wheel 10 meshes with a pinion 12 mounted on a shaft 13 journaled in the arms 3 and 4, said shaft carrying a mutilated pinion 14, the gear teeth of which are removed from around the periphery of the same at one side thereof, as shown in Fig. 4.

Secured to the drum 8 is a rope or cable

15, and connected to the lower end of said rope or cable is a weight 16. Connected to the outer ends of the arms 3 and 4 is an upright 17, and extending from the upper ends of said upright is a guide bearing 18 through which the upper end of the rack bar projects. The rack bar 19 is provided with lateral flanges 20 fitted to slide in guides 21 secured inside the arms 3, 4. At the lower end of the rack bar, the dasher rod 22 is connected, said dasher rod adapted to be reciprocated in the churn 23. A spring 24 surrounds the upper portion of the rack bar, said spring being sustained by means of a collar 25 adjustably secured upon the shank of the rack bar by means of a set screw 26.

On the end of the shaft 13 is a cam 27, and mounted to slide in keepers 28 secured to the arm 3 is a sliding stop bar 29, said bar having at its lower end a roller 30 projecting therefrom in the path of movement of the cam 27. A spring 31 is secured at one end to the bar 29 and at the opposite end to one of the keepers 28.

The operation of my invention may be briefly described as follows: When the rope or cable 15 has been wound upon the drum 8 until the weight 16 is in its uppermost position, and the pawl 11 is engaged with the ratchet teeth of the ratchet 9, as the weight descends, the gear wheel 10 rotates the shaft 13, and the mutilated gear 14 raises the rack bar 19 against the tension of the spring 24. When the smooth untoothed portion of the gear 14 occupies a position adjacent to the teeth of the rack bar 19, said rack bar is pushed downward by the compressed spring 24. At this time the cam 27 is brought into contact with the roller 30 on the bar 29, thus preventing the rotation of the shaft 13 until after the rack bar has descended, when the arm 32 secured to the rack bar comes in contact with the upper end of the bar 29 and pushes it downward until the roller 30 is out of the way of the cam 27, after which the shaft 13 is again rotated by the weight 16 descending. The bar 29 is then moved upward by the spring 31.

From the foregoing it will be obvious that a churn operating mechanism made in accordance with my invention is of comparatively simple construction; will operate efficiently for its purpose; that owing to the length of the rope or cable 15, the dasher rod is reciprocated many times after the rope has been wound upon the drum 8; that the

mechanism is composed of comparatively few parts, and is not liable to get out of order.

Having thus described the invention, what I claim is:

5 1. A churn operating mechanism comprising a frame, a winding drum connected to the frame, a rope or cable connected to the drum and provided with a weight, a gear wheel on the drum shaft, a shaft mounted in
10 the frame and provided with a pinion engaging the gear wheel, a mutilated gear on said shaft, a rack bar engaged by said mutilated gear, a dasher rod secured to said rack bar, a spring for depressing the rack bar and
15 dasher rod, and means for preventing the rotation of the drum during the downward movement of the rack bar and dasher.

2. In a churn operating mechanism, the combination of a rack bar connected to the
20 churn dasher, a spring for moving the rack

bar downward, a drum, a cable connected to the drum and provided with a weight, means for winding the weight up toward the drum, and connections whereby the weight will raise the rack bar, and means for preventing the rotation of the drum during the downward movement of the rack bar.

3. In a churn operating mechanism, the combination of a rack bar, a spring for forcing the rack bar downward, gravity devices for moving the rack bar upward, and means for preventing the rotation of the gravity devices during the downward movement of the rack bar.

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

ALBERT M. McKOY.

Witnesses:

W. E. MOONEY,

H. B. MARTIN.