W. A. MORGAN.

Churn-Motor.

No. 204,071. Patented May 21, 1878.

Fig. 1.

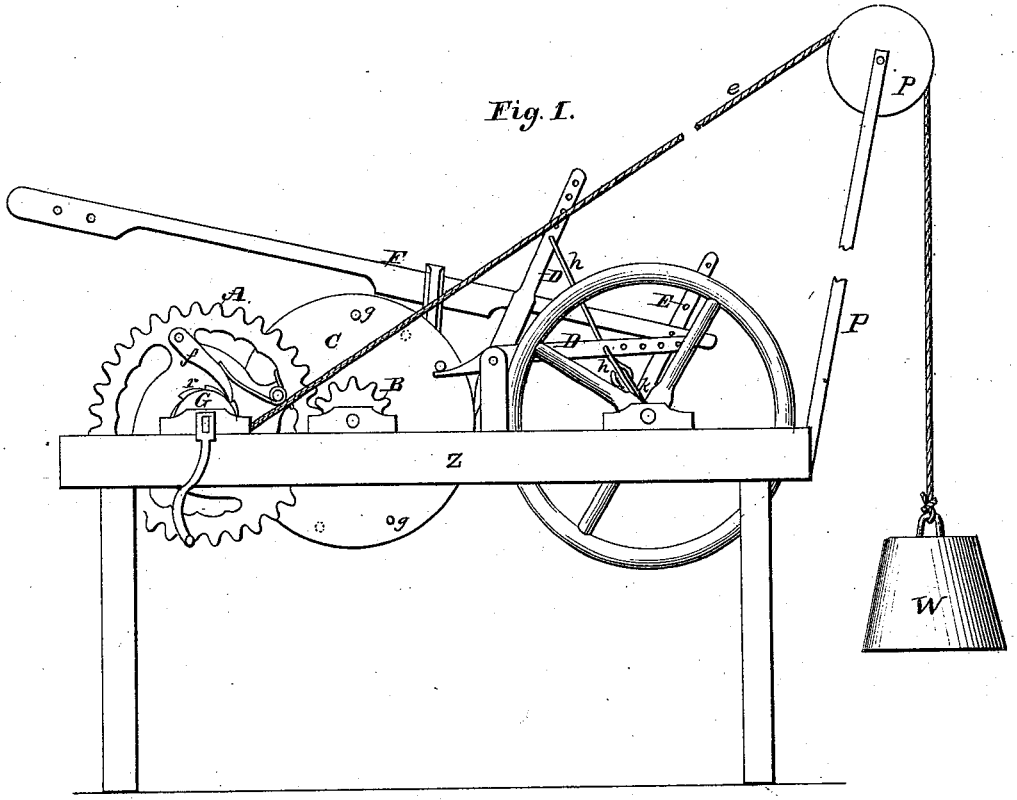
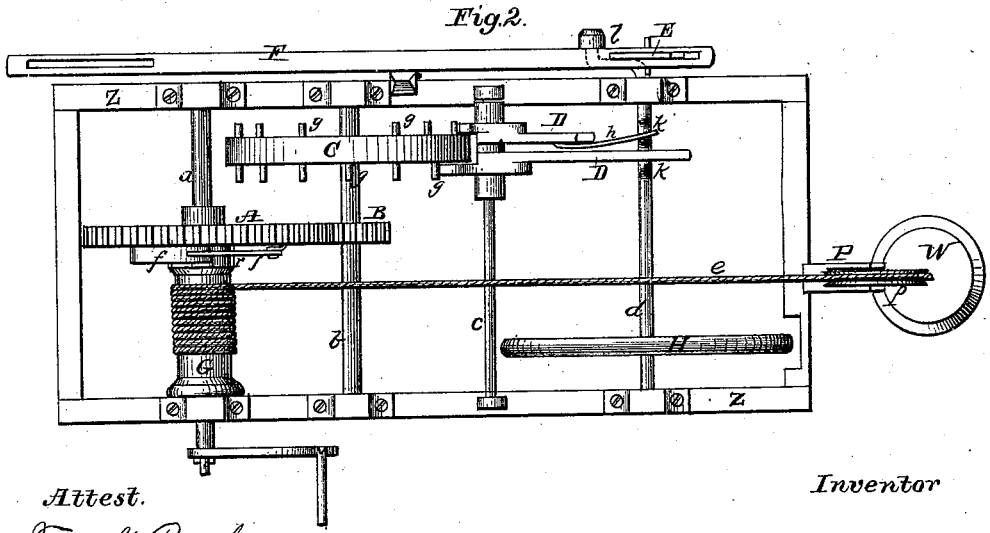


Fig. 2.



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WILLIAM A. MORGAN, OF NOLA CHUCKY, TENNESSEE.

IMPROVEMENT IN CHURN-MOTORS.

Specification forming part of Letters Patent No. **204,071**, dated May 21, 1878; application filed November 22, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. MORGAN, of Nola Chucky, in the county of Washington and State of Tennessee, have invented certain novel and useful Improvements in Machines for Driving Churns, whereof the following is a true and exact description, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon, in which—

Figure 1 is a representation of a side view of this machine. Fig. 2 is a plan view of the same.

This invention has relation to means for driving churns; and it consists in the construction and novel arrangement of parallel shafting carrying in succession a winding-drum and drive-wheel, a spur or verge wheel, a pair of stroke-levers, and a double crank connected therewith, said parts being operated by means of a weight and cord therefrom connected to said drum, all as hereinafter shown and described.

In the accompanying drawings, the letter Z designates the frame of the machine, having suitable seats for the parallel transverse shafts *a b c d*, arranged in succession, as shown.

P indicates an upright or post, carrying a pulley, *p*, over which a rope, *e*, from the weight W, extends, being fastened to the winding-drum G, which is keyed on the shaft *a*. This shaft also carries the loose driving-gear wheel A, which is provided with a pawl, *f*, engaging a ratchet, *r*, in the end of the drum G, thereby connecting the two when the drum is turned by the weight-rope. When the rope is being wound on the drum the ratchet passes freely under the pawl of the wheel A, which remains stationary.

On the next shaft *b* is a pinion, B, which engages with the drive-wheel A. This shaft also carries a large verge-wheel, C, which is provided on each side with a series of spurs or striking-studs, *g*, which are near the margin of said wheel, and are arranged alternately, or in such a manner that each spur on one side of the wheel is opposite the center of the space between the spurs on the other side.

On the next shaft *c*, which is usually arranged a little above the level of the others, are the stroke-levers D D, the lower ends of which are so located as to be driven down by the strokes of the spur *g* of wheel C alternately, thereby causing their other ends to be raised. These ends are connected by means of adjustable rods *h* to the cranks *k* of the last shaft *d*, and through the medium of the levers D. Therefore this crank-shaft is turned rapidly with a quick action. This shaft carries a fly-wheel, H, usually, and at its end is provided with a crank-arm, *l*, to which the dash-lever F is connected by an adjustable pitman or rod, E.

The churn-dash is connected to the lever F, and the machine is operated by the gravitation of the weight W, which, through the medium of the verge-wheel and stroke-levers, operates the crank-shaft by short quick strokes.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The churn-driving mechanism, consisting of the shafts *a b c d*, gearing A B, drum G, pawl *f*, ratchet *r*, verge-wheel C, stroke-levers D D, crank-shaft *d*, weight W, and rope *e*, substantially as specified.

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Witnesses:

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