J. FERN & S. BLIGH.

Churn-Power.

No. 212,672. Patented Feb. 25, 1879.

Fig. 1.

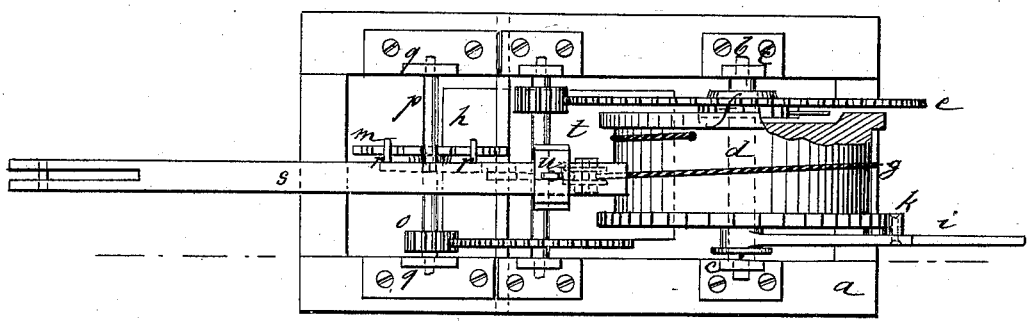
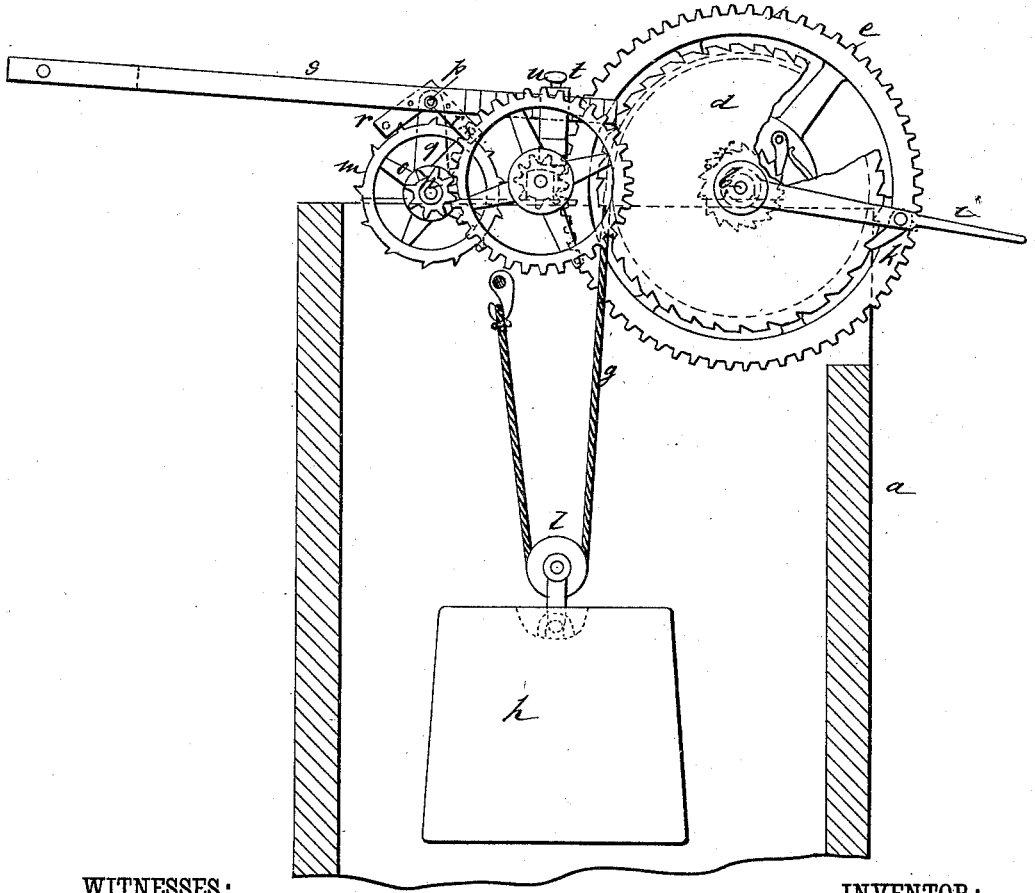


Fig. 2.



WITNESSES:

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JULIUS FERN AND SAMUEL BLIGH, OF ONEONTA, NEW YORK.

IMPROVEMENT IN CHURN-POWERS.

Specification forming part of Letters Patent No. **212,672**, dated February 25, 1879; application filed January 13, 1879.

To all whom it may concern:

Be it known that we, JULIUS FERN and SAMUEL BLIGH, of Oneonta, in the county of Otsego and State of New York, have invented a new and Improved Churn-Power, of which the following is a specification:

Our improvements relate to powers for churning, and other purposes requiring small and convenient powers; and consist in a drum and weight, a pallet-wheel operating a balanced beam, together with intermediate gearing, and a hand-lever for winding the weight, combined and arranged for operation as more particularly hereinafter set forth.

In the accompanying drawings, Figure 1 is a plan view of our improved power. Fig. 2 is a sectional side elevation.

Similar letters of reference indicate corresponding parts.

Upon a suitable box or stand, *a*, is a shaft, *b*, in bearings *c*, carrying a loose drum or barrel, *d*, and a gear-wheel, *e*, secured to shaft *b*. Upon drum, next to wheel *e*, is a ratchet-wheel, *f*, for engagement with a pawl on *e*, so that the drum and gear will turn together in one direction, and the drum may be turned in the contrary direction independently of shaft *b* and gear *e*.

A cord, *g*, or chain, is attached by one end to stand *a*, and by the other end to the periphery of drum *d*, and carries a suitable weight, *h*, which serves to drive the power. The weight is raised by winding cord *g* on drum *d*, which is done by a lever, *i*, hung loosely on shaft *b*, and carrying a dog, *k*, that engages with the toothed flange of drum *d*. The outer end of lever *i* serves as a handle in winding the drum, and to relieve friction the weight has a pulley, *l*, under which cord *g* passes.

The escapement or pallet wheel *m* is upon an arbor, *n*, which also carries a pinion, *o*, and will be driven directly from the gear-wheel *e*, or by intermediate gearing, as shown.

Above pallet-wheel *m* is an arbor, *p*, that is fitted in standards *q*, and carries the pallets *r r*, which engage with the teeth of *m*. The teeth of *m* are formed upon one side radial with the axis of *m*, and curved upon the other side, the curved sides acting upon the pins of pallets *r*, so that there is a continuous pressure tending to rock shaft *p*.

s is a beam hung upon arbor *n*, having its outer end fitted for attachment to a churn-dasher, and carrying upon its inner end a weight, *t*, fitted to slide upon beam *s*, and clamped at any point by set-screw *u*. By moving weight *t* nearer to or farther from arbor *n*, the beam *s* and its connections can be balanced, and the operation of the machine thereby rendered uniform.

By the described construction it is only necessary to wind up the weight to set the beam in motion, and the speed will be according to the weight and proportions of the gearing. We prefer that beam *s* oscillate at a speed of sixty strokes to a minute, and run an hour by one and a half revolution of drum *d*.

If desired, two drums and weights can be used, and wound up alternately, to obtain a continuous motion; or two drums may be used in connection with one weight for a similar purpose.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The shaft B, having loose drum *d*, loose lever *i*, with dog *k*, gear-wheel *e*, with pawl, ratchet-wheel *f*, and cord *g*, the latter passing around the pulley on weight *h*, in combination with the arbor *n*, having pinion *o* and wheel *m*, the rocking shaft *p*, having pallets *r r*, and the beam *s*, provided with slide-weight, as and for the purpose specified.

JULIUS FERN.
SAMUEL BLIGH.

Witnesses:
ROMINE TERRELL,
GILBERT BLIGH.