(12) **United States Patent**
Elliot

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(54) **POWER, ALTERNATE MOTION FOR**

(76) Inventor: **Benjamin Elliot**

Benjamin Elliot of Danby, New York.

Letters Patent

The schedule referred to in these Letters patent and making a part of the same, containing a description in the words of the said Benjamin Elliot himself of his improvement in a machine to produce alternate motion applicable to churns, and to propell other machinery.

To all to whom these presents shall come

Be it known that I Benjamin Elliot of the town of Danby in the County of Tompkins, and State of New York, have invented a new and useful improvement in a Machine to produce alternate motion applicable to churns and to propell other machinery; and that the following is a full and exact description of the construction and operation of the said Machine as invented and improved by me

The machine consists first of four upright post frames into sides and end rails of a sufficient hight to elevate the machinery hereinafter described above the churn or other machine to be propelled across the centre of this frame and secured to the top rail is a shaft which passes through the lower side of an oblong square frame made of wood or metal and standing vertically over the supporting frame between the side rails thereof, which frame is intended to vibrate backwards on the said shaft, from the extremities of the lower side of the vertical frame extends downwards and under the supporting frame a sliderof iron or wood, which may be curved or angular, to the centre of which is attached a weight that causes when in motion the frame to vibrate steadily precisely on the principle of a pendulum, On the centre of the vertical frame, is placed a vertical shaft its lower end running in a box fixed on the upper side of the lower rail of the vertical frame and the upper secured in the top rail of said frame with a thumb screw, to -

regulate and confine it — at the upper end of this vertical shaft is to be attached a lever weighted at its outer extremity by a weight proportioned to the length of the lever, and power required

The weight may also be made moveable along the lever, and secured at such a distance from the shaft as will produce the power desired on the foot of the shaft is placed a pinion wheel of peculiar form viz, the levers are to be bevelled from the centre to opposite directions the object of which is to prevent the vertical frame to vibrate when said pinion is in gear, a horizontal cog wheel which meshes in the double bevelled pinion aforesaid, has its bearing in one of the top rails of the supporting frame, and a spindle passed above said rail its lower side has a bevelled gearing which works into a bevel wheel fixed on the main shaft which has its bearing on the supporting frame produces in any way most convenient is fitted to a barrel on which a cord winds that draws up the weight by which the machine is operated

It is also supplied with a ratchet & spring or hand similar to those used in Clockwork so as to admit of being wound up when run down, the alternate motion when applied to churns is taken from the lower side of the vertical frame by means of two levers of proper length attached thereto on opposite sides of the vertical shaft and having their centres of motion on the side rail of the supporting frame, their outer extremities being attached to the dasher rods of the churn or cranks of the Machine to be operated, — Operation the weight being wound up motion by means of the gearing is communicated to the vertical shaft which being set in revolution the weighted lever causes the vertical frame and its weight to vibrate and the levers attached to the lower rail of said frame to move the churn dasher rods up and down or revolve the cranks of the Machinery designed to be operated — What I claim as new and as my invention, is the Vertical vibrating frame and its appendage weight in combination with the weighted lever, the shaft and double —

bevelled pinion operated by a cog wheel as above described

In testimony that the foregoing is a true specification of my said improvement I have hereunto set my hand at Washington this 27th day of September 1834

Benjamin Elliott

Witnesses

John D. Babb

Robt. Clarke.

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