No. 870,494. PATENTED NOV. 5, 1907.

J. W. CONNETT.

CHURN.

APPLICATION FILED DEC. 26, 1906.

Fig. 1.

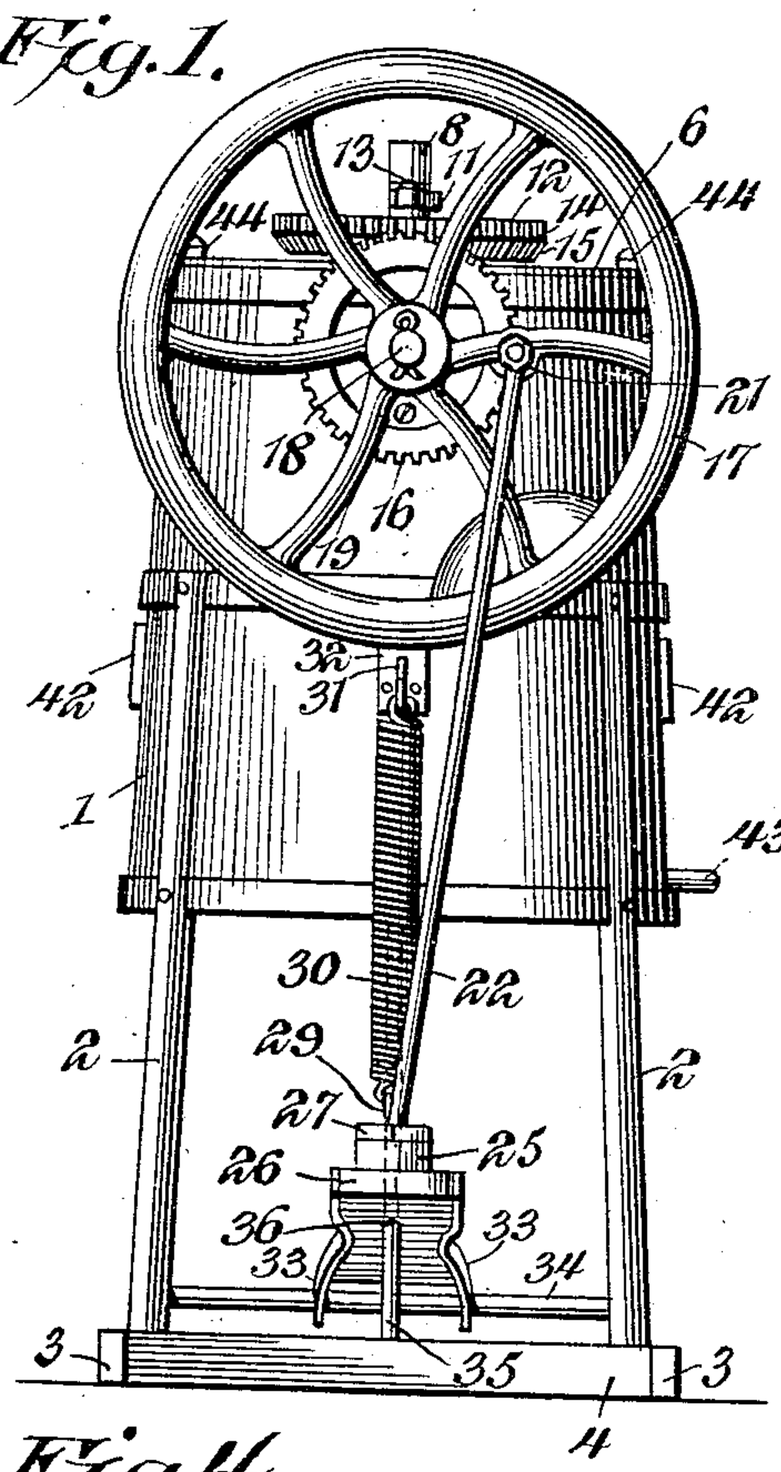


Fig. 2.

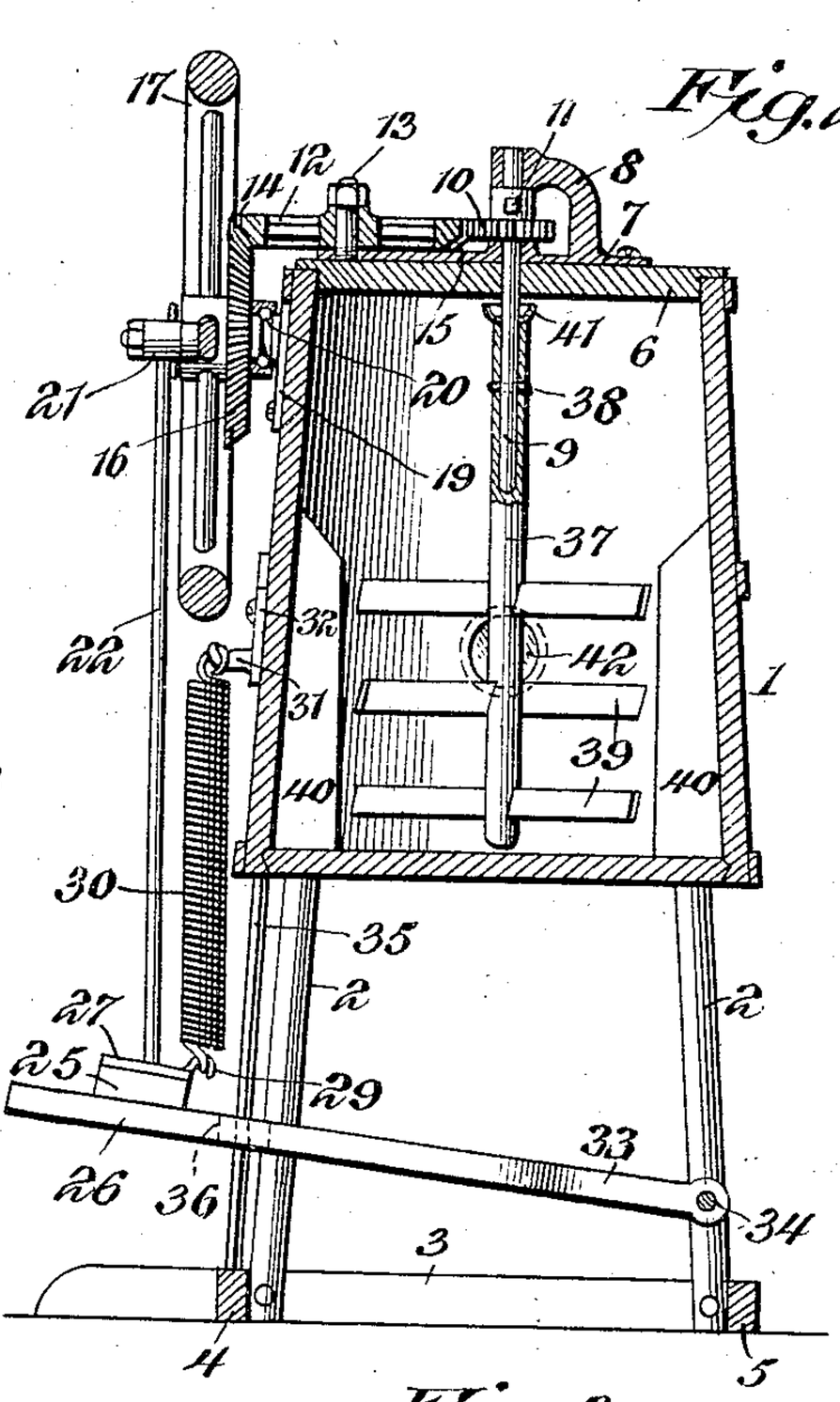


Fig. 4.

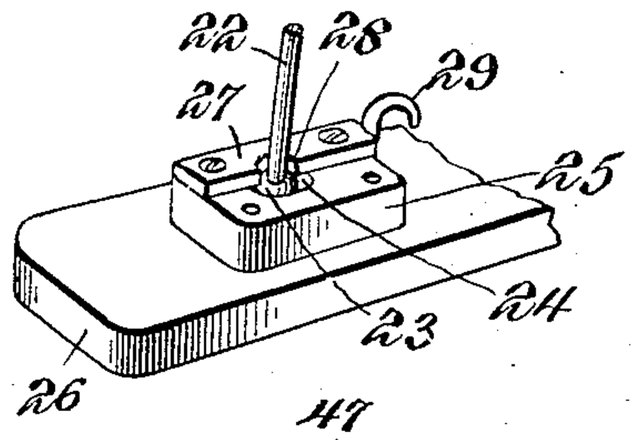


Fig. 5.

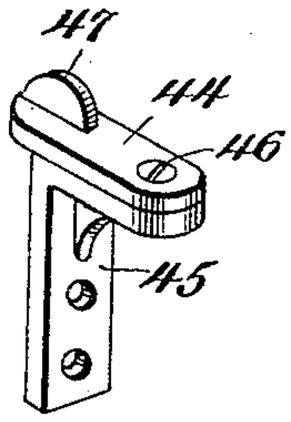
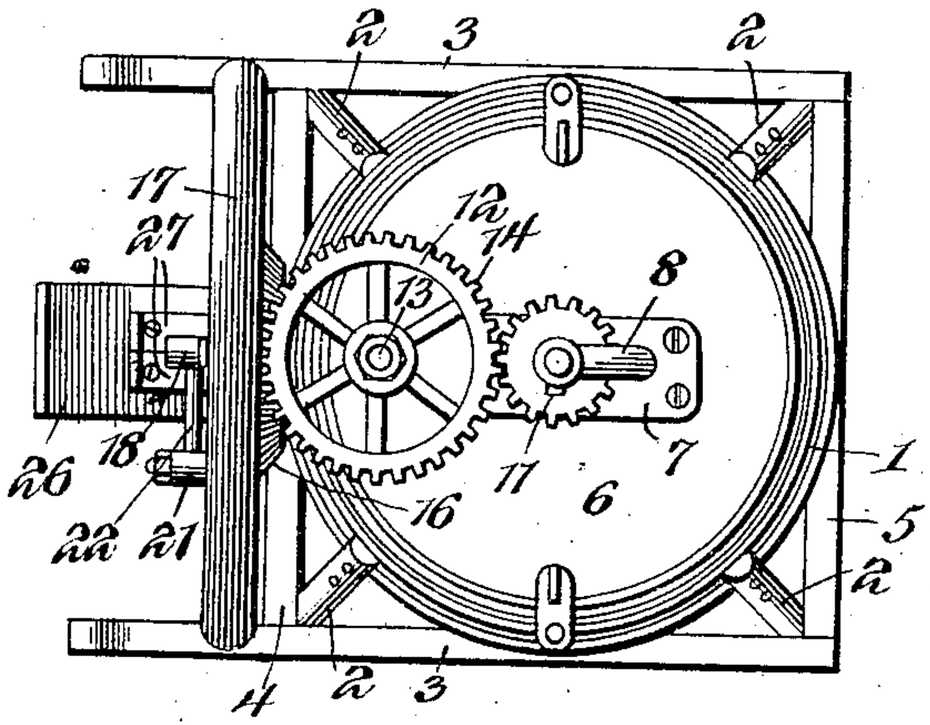


Fig. 3.



Witnesses

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CHURN.

No. 870,494. Specification of Letters Patent. Patented Nov. 5, 1907.

Application filed December 26, 1906. Serial No. 349,426.

To all whom it may concern:

Be it known that I, JOHN W. CONNETT, a citizen of the United States, residing at Missouri Valley, in the county of Harrison and State of Iowa, have invented certain new and useful Improvements in Churns, of which the following is a specification.

The invention relates to improvements in churns.

The object of the present invention is to improve the construction of churns, and to provide a light, easy running churn of simple and comparatively inexpensive construction, capable of effecting a rapid production of butter.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a front elevation of a churn, constructed in accordance with this invention. Fig. 2 is a central vertical sectional view. Fig. 3 is a plan view. Fig. 4 is a detail perspective view of the outer portion of the treadle, illustrating the construction for connecting the same with the pitman and the spring. Fig. 5 is a detail perspective view of the device for securing the top or cover of the churn on the body.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a churn body, provided with supporting legs 2, connected at their lower ends by side bars 3 and front and rear transverse bars 4 and 5, which with the side bars form a base for the churn. The churn body is provided with a cover or top 6 on which is secured a bearing block 7, and the latter has an upwardly extending arm 8. The arm 8, which has a terminal bearing, receives the upper end of a vertical shaft 9, which passes through the base of the bearing block and which has a pinion 10 mounted on it. The pinion 10 is secured to the shaft 9 by a set screw 11 and it meshes with a horizontal gear 12, which is also mounted on the bearing bracket. The gear 12 is mounted on a vertical bolt 13, which engages a threaded opening in the base of the bearing bracket. A stub shaft, or any other suitable means, however, may be employed for mounting the horizontal gear wheel on the bearing bracket.

The horizontal gear 12 is provided with upper horizontal spur teeth 14, which mesh with the pinion 10, and it has lower bevel teeth 15, which mesh with bevel teeth 16 of a vertically disposed combined crank and balance wheel 17. The combined crank and balance wheel 17 is mounted on a stub shaft 18 of a plate or bracket 19, and it is provided at the inner end of its hub portion with a suitable groove or ball race for the reception of anti-friction balls 20, which are interposed between the inner end of the hub of the combined balance and crank wheel and the plate or bracket 19. The combined crank and balance wheel, which is provided within its periphery with a weight, is detachably secured to the stub shaft 18 by a key, or other suitable fastening device.

One of the spokes of the combined crank and balance wheel is provided with an eccentrically arranged wrist pin 21, to which is connected the upper end of a pitman 22, and the latter is provided at its lower end with a head 23, which is in the form of a ball and which is arranged within a socket 24 of a metallic bearing block 25. The metallic bearing block 25 is secured by screws, or other suitable fastening devices to the outer portion of a treadle 26, and the head 23 of the pitman is retained in the socket by a pair of plates 27, forming a sectional cap for the bearing block and secured to the upper face of the same by the screws thereof. The plates, which are approximately of a size to cover one half of the upper face of the bearing block, are provided in their contiguous edges with semi-circular recesses 28, forming a central opening through which the pitman passes. The opening, formed by the recesses 28, is of sufficient size to permit the necessary movement of the pitman. One of the plates 27 is provided with a projecting hook 29, extending from the inner end of such plate and receiving the lower end of a coiled spring 30. The coiled spring 30 is provided at its ends with loops, the lower one being engaged with the hook 29, which is inverted, and the upper loop being connected to a hook-shaped arm 31 of a bracket or plate 32, which is secured to the churn body. The coiled spring, which is distended when the treadle is depressed, operates to assist the upward movement of the said treadle, and it with the balance wheel renders the operation of the churn light and easy.

The treadle 26, which has a forked inner portion, may be constructed of any suitable material and the sides or arms 33 of the fork are mounted on a horizontal rod 34, which connects the rear legs. The treadle may be guided by a rod 35, extending from the front cross piece 4 to the churn body and passing through an opening 36 of the treadle, but the guide rod may be omitted if desired.

The vertical shaft 9 is secured in a longitudinal bore or opening of the stem 37 of a dasher by a pin 38, and it supports the dasher above the bottom of the churn body. The dasher, which may be of any preferred construction, is preferably provided with blades or arms 39, set at an angle or inclination and coöperating with fixed blades or members 40 of the churn body. The dasher and the fixed blades or members effect a sufficient agitation of the contents of the churn body

to produce butter in a comparatively short time. The stem of the dasher is provided at its upper end with a flared portion or cup 41, adapted to collect any oil dripping from the bearings of the shaft 9. This will enable the bearings of the shaft to be lubricated without liability of any of the oil coming in contact with the contents of churn body.

The churn body is provided with a transparent plate or pane of glass 42 to enable the contents of the churn body to be inspected without removing the cover, and it has a drain opening, which is normally closed by a plug 43.

The top or cover of the churn body is securely retained in place by pivoted locking members or plates 44, mounted on brackets 45 and extending inwardly therefrom a sufficient distance to engage the top or cover. The brackets, which are substantially L-shaped, as clearly shown in Fig. 5 of the drawing, are secured to the exterior of the churn body, and the locking plates 44 are pivoted at their outer ends to the outer portions of the brackets by screws 46, or other suitable fastening devices. The inner portions of the locking plates are provided with lips or flanges 47 to enable them to be readily grasped by the operator.

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

1. In a churn, the combination with a churn body, of a dasher, gearing connected with the dasher and having a vertically disposed combined crank and balance wheel, a pitman connected at its upper end with the said wheel and provided at its lower end with a head, a treadle, a bearing block having a socket to receive the head of the pitman, removable cap plates secured to the bearing block and provided with inner recessed edges receiving the pitman and retaining the head in the socket, and a spring connected with the treadle and with the body.

2. In a churn, the combination with a churn body, of a dasher, gearing connected with the dasher and having a vertically disposed combined crank and balance wheel, a pitman connected at its upper end with the said wheel and provided at its lower end with a head, a treadle, a bearing block having a socket to receive the head of the pitman, removable cap plates secured to the bearing block and provided with inner recessed edges receiving the pitman and retaining the head in the socket, one of the said plates being provided with an inverted hook, a spring connected with the said hook, and means for connecting the spring with the body.

3. In a churn, the combination with a body, of a dasher, gearing for operating the dasher, said gearing being provided with a crank wheel, a treadle, a pitman connected at its upper end with a crank wheel and provided at its lower end with a head, a bearing block having a socket receiving the said head, a sectional cap fitted on the bearing block and having contiguous recesses through which the pitman passes, one of the sections being provided with an inverted hook, a bracket mounted on the churn body and provided with a hook, and a coiled spring having terminal loops engaging the said hooks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN W. CONNETT.

Witnesses:
W. J. BURKE,
W. D. CODY.