(No Model.)

A. C. FELL.

CHURN.

No. 491,677. Patented Feb. 14, 1893.

FIG. 1.

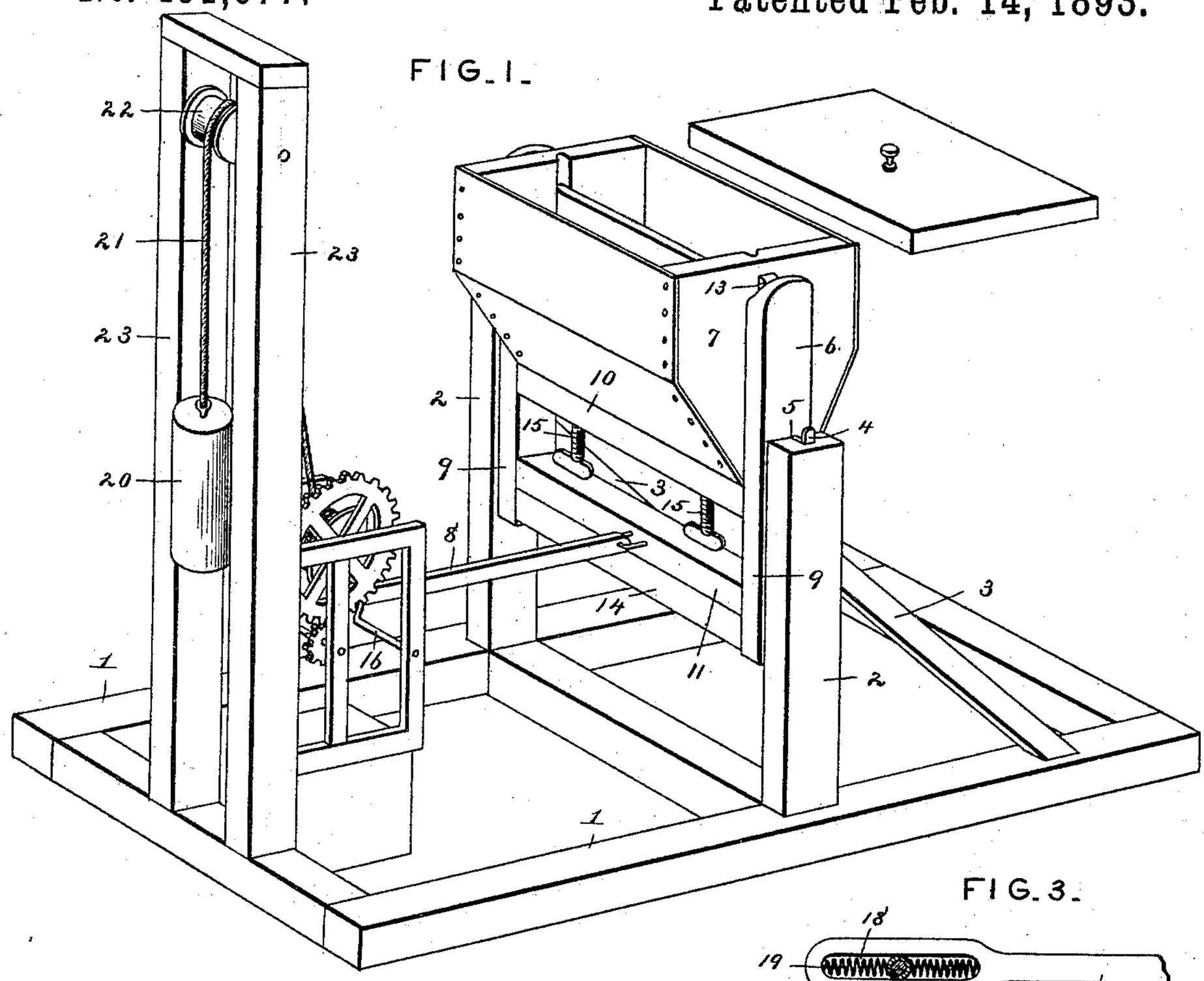


FIG. 2.

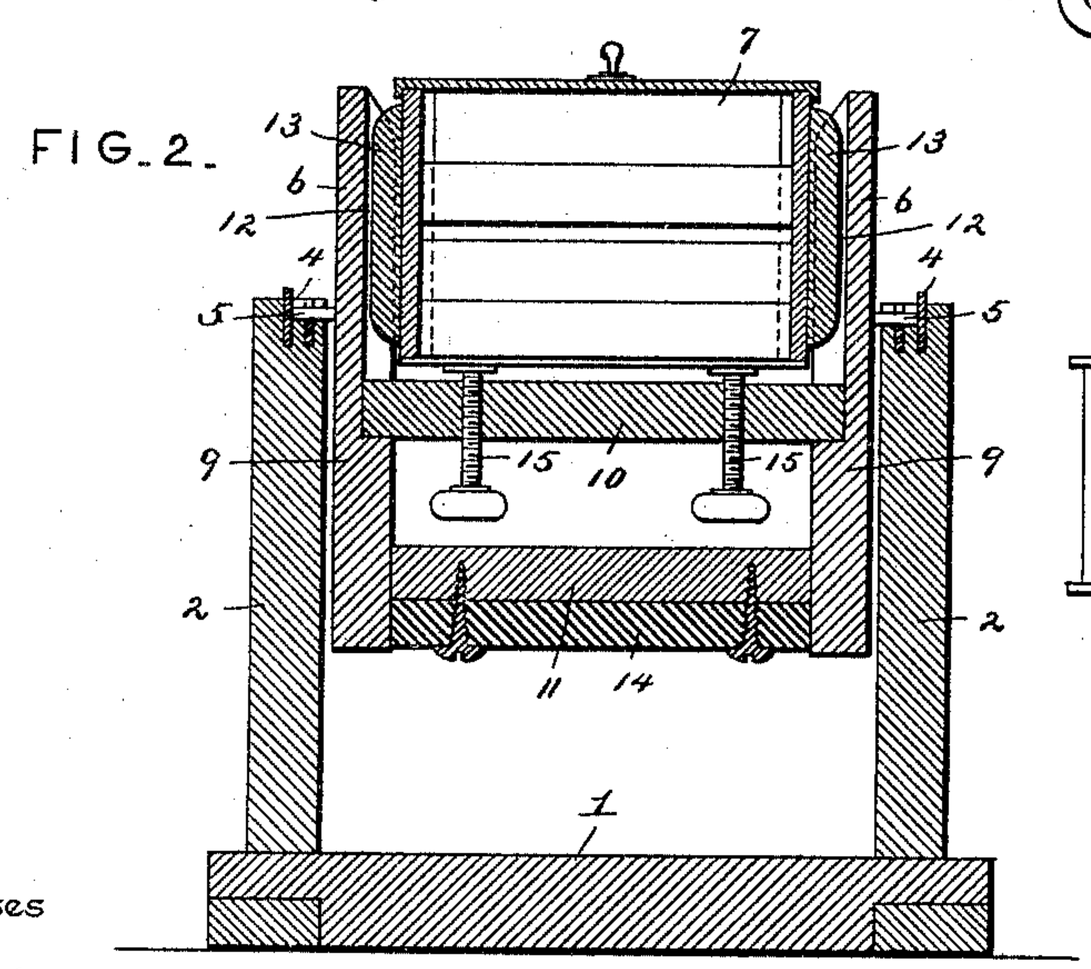
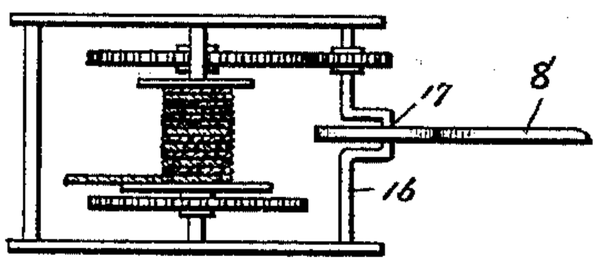


FIG. 3.

FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

AMOS C. FELL, OF NEWVILLE, INDIANA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 491,677, dated February 14, 1893.

Application filed September 29, 1892. Serial No. 447,257. (No model.)

To all whom it may concern:

Be it known that I, AMOS C. FELL, a citizen of the United States, residing at Newville, in the county of De Kalb and State of Indiana, have invented a new and useful Improvement 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 oscillating churns, and to enable them to be readily oscillated by a small amount of force, and to enable them to be adjusted to suit the amount of milk to be churned to preserve the proper balance of the parts so that the same force will operate with equal facility different quantities of milk.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings--Figure 1 is a perspective view of a churn embodying the invention. Fig. 2 is a transverse sectional view. Fig. 3 is a detail sectional view of one end of the pitman. Fig. 4 is a detail view showing a portion of the weight motor.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a base and rising from opposite sides thereof near the middle of the same are vertical standards 2 supported by braces 3, and provided at their upper ends with bearings 4 in which are arranged journals 5 of an oscillating frame 6 carrying a churn body 7. The oscillating frame 6 is connected near its lower end by a pitman 8 with a weight motor, and it consists of sides 9 connected near their lower ends by cross-bars 10 and 11 and provided in their opposite faces with longitudinal grooves 12 forming ways and receiving ribs or flanges 13 of the churn body 7. The ribs 13 are arranged on the outer faces of the ends of the churn body, and are adapted to slide freely in the grooves 12. The bottom of the frame is provided with a weight 14 which is secured to the lower face of the cross-bar 11; and the churn body is adapted to be adjusted vertically by screws 15 according to the contents of it to balance the oscillating frame, and thereby enable the weight motor to be of a very small power. The adjusting screws are arranged in threaded openings of the cross-bar 10, and when a large quantity of milk is to be churned the churn body is lowered close to the cross-bar 10, and the smaller the quantity the more the churn body is elevated.

The churn body is provided with a suitable dasher, and butter is produced by the milk or cream striking against the sides of the body and the dasher as in an ordinary oscillating churn. The pitman is centrally arranged, and is connected with a crank shaft 16 of the weight motor, and it is provided with a sliding bearing 17 arranged in an elongated opening 18 and cushioned by springs 19 disposed on opposite sides of it, whereby the motion is rendered easy and free from dirt. The weight 20 for running the motor is connected to one end of the cord or rope 21 which passes over a pulley 22, and the latter is arranged at the top of uprights 23.

It will be seen that the churn is simple and efficient, that it may be readily operated by a small power, and that it may be readily adjusted according to its contents to preserve the proper equilibrium of its parts, whereby a small power will churn a small or large quantity of milk with equal facility.

What I claim is—

1. In a churn, the combination of standards, an oscillating frame journaled intermediate of its ends in the standards and having one end weighted and provided at its opposite ends with ways, a churn body arranged in said ways and adapted to be adjusted therein, and means for securing the churn body in its adjustment, substantially as described.

2. In a churn, the combination of standards provided with bearings, an oscillating frame journaled intermediate of its ends in the bearings and provided at its lower end with a weight and having at its upper end ways, a churn body provided with ribs arranged in said ways, and adjusting screws arranged beneath the churn body and supporting the same and securing the body in its adjustment, substantially as described.

3. In a churn, the combination of standards provided with bearings, an oscillating frame comprising side bars provided intermediate

of their ends with journals arranged in said bearings and the upper and lower cross-bars connecting the side bars near their lower end, said side bars projecting above the cross-bars and provided in their opposed faces with grooves, a churn body provided at its ends with ribs arranged in said grooves, adjusting screws mounted in the upper cross-bar and supporting the churn body, and a weight secured to the lower cross-bar, substantially as described.

4. In a churn, the combination of standards, an oscillating churn body mounted between the standards, a motor having a crank shaft, a pitman connected with the oscillating churn body and provided with an elongated opening, a sliding bearing arranged in the opening and receiving the crank shaft, and springs arranged in the opening and disposed on opposite sides of the sliding bearing to cushion the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

AMOS C. FELL.

Witnesses:
ELIJAH INHORPE,
GEO. C. SHOEMAKER.