(No Model.)

H. E. HAWK, W. SMITH & J. F. FOX.

CHURN.

No. 408,480. Patented Aug. 6, 1889.

Fig. 3.

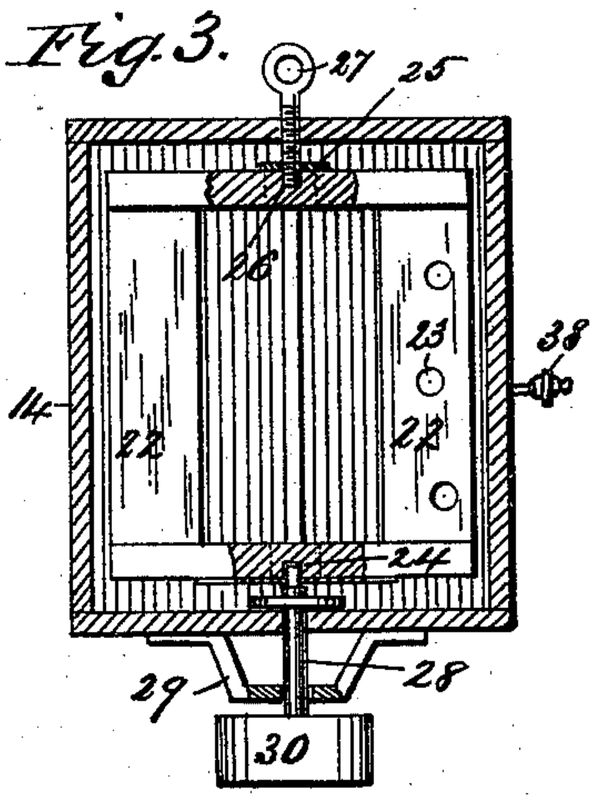
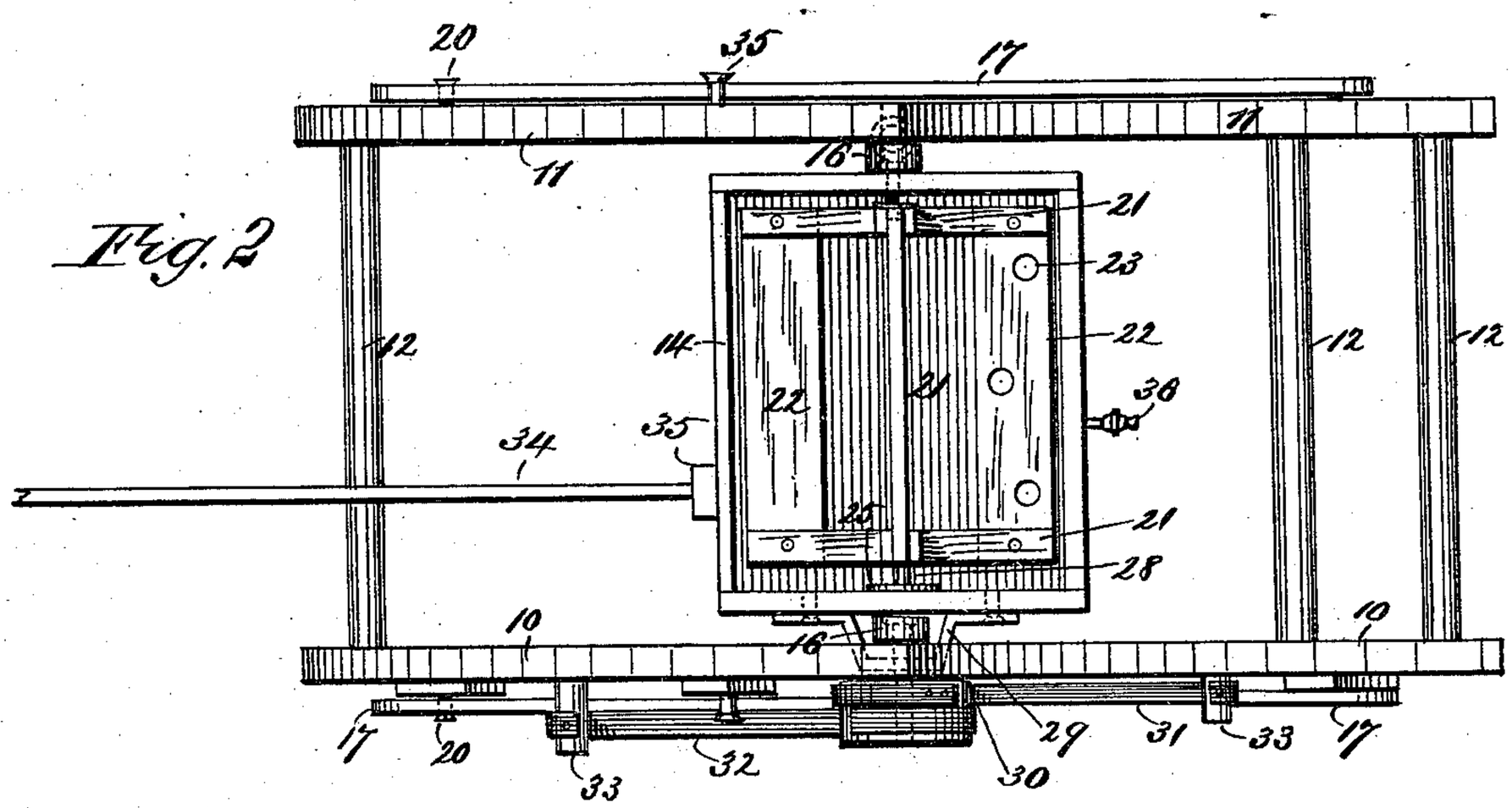


Fig. 1.

Fig. 2



WITNESSES:

F. McArdle.

C. Sedgwick

BY

INVENTOR:

H. E. Hawk

W. Smith

J. F. Fox

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HALE E. HAWK, OF BUCYRUS, AND WESLEY SMITH AND JOSEPH F. FOX, OF PIERCE, OHIO.

CHURN.

SPECIFICATION forming part of Letters Patent No. 408,480, dated August 6, 1889.

Application filed April 9, 1889. Serial No. 306,632. (No model.)

To all whom it may concern:

Be it known that we, HALE E. HAWK, of Bucyrus, in the county of Crawford and State of Ohio, and WESLEY SMITH and JOSEPH F. FOX, both of Pierce, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Churns, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in churns, and has for its object to provide a swinging churn, in which when the body is reciprocated a rotary motion will be imparted to the dash.

An object of the invention is also to provide a churn of simple and durable construction, capable of convenient manipulation, and wherein, when the churn is not in use, the frame may be folded up to occupy a minimum of space in storage.

A further object of the invention is to provide a means whereby the dash may be expeditiously and readily removed from the body of the churn to facilitate cleaning and the removal of the butter.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter more fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the device. Fig. 2 is a plan view; and Fig. 3 is a central vertical section through the churn, illustrating the manner of journaling the dash.

The frame of the churn consists of two pairs of uprights 10 and 11, connected by suitable bars or rungs, the said rungs 12 being preferably located between the bottom and center of each pair of standards. Ordinarily one pair of standards only is provided with one lower bar or rung 12, as illustrated in Fig. 2. The two pairs of standards 10 and 11 are hinged at the top, as illustrated at 13 in Fig. 1, in such manner that one pair of standards is capable of folding upon the opposed standards when occasion may demand.

The body of the churn 14 is preferably rectangular in general contour and provided with a removable or detachable lid 15, the said churn being of such length that it will readily swing between the members of the said pairs of standards, as shown in Fig. 2.

The body of the churn 14 is supported between the pairs of standards, preferably by means of uprights 16, one being attached to each end of the body at one extremity and pivoted at the other or upper extremity to the upper end of the standards 10, as shown in Fig. 1. If, however, it is found desirable, one upright or connecting rod 16 may be attached to each of the standards 10 and 11 and projected downward, one across the other, to a connection with the body of the churn at each end, near each side of the latter, as illustrated in dotted lines in Fig. 1.

The opposed standards of the right-hand pair 10 are each provided with a cross-bar 17, pivoted thereto near their lower ends, which cross-bars are preferably provided with two notches 18 and 19 in their under edge, the notch 19 being located near the free end of each cross-bar and adapted for contact with or to receive a stud or pin 20, projected from the outer face of each standard of the pair 11, as shown in Fig. 1, the pin 20 being located, preferably, the same distance from the lower extremity of the standards 11 as the pivotal point of the cross-bar is located from the lower extremity of the pair of standards 10, whereby, when the cross-bars 17 are engaged with the pins 20, the said cross-bars will be in a horizontal position and each set of standards will be in an inclined position, the frame representing substantially the letter **A**.

The ends of the dash 21 are made substantially in the form of a cross or star, as shown in Fig. 1, the members of said ends being connected at each extremity by paddles 22, which paddles may consist of a plain piece of suitable material, and one or more or all of the said paddles may be provided with a number of apertures 23, as shown in Fig. 2. At the intersection of the members constituting one end of the dash a rectangular recess 24 is formed in one side and upon the opposite side a plate 25 is secured, provided, preferably, with a threaded aperture.

In one end of the body 14 of the churn a set-screw 27 is inserted, adapted to enter a threaded recess 26 of the dash. The other end of the said dash is supported by means of a shaft 28, held to revolve in one end of the body 14, the inner end of which shaft is

rectangular in cross-section and adapted to enter the corresponding recess 24 in the dash, as best illustrated in Fig. 5. The shaft 28 is journaled in a suitable bracket 29, secured upon the outer end face of the body of the churn, and upon the end of the said shaft projecting beyond said brackets a disk or wheel 30 is rigidly secured.

Upon the periphery of the said disk or wheel 30 two independent straps 31 and 32 are securely fastened at one end in such manner that the attached extremities of the straps will not be in horizontal alignment. Each strap 31 and 32 is given about one turn around the disk or wheel 30 and carried therefrom in opposite directions, the strap 31 being secured to a stud or pin 33, projecting from one of the standards 10, and the strap 32 being attached in similar manner to the corresponding standard of the set 11. The attachment of the straps is effected in any suitable or approved manner.

It will thus be observed that if the body of the churn 14 is laterally reciprocated between the sets of standards 10 and 11 the disk or wheel 30 will be given a rotary reciprocating movement by reason of the peculiar attachment of the straps 31 and 32, and that a similar movement will be imparted to the dash.

The body of the churn 14 is reciprocated through the medium of a lever 34, pivoted in a bracket 35, projected downward from one side of the body of the churn and carried outward above the lower or single cross-bar 12 of the standards 11. This lever may be manipulated in any convenient or suitable manner. When the churn is not in use, the standards 11 are folded upon the standards 10, and the inner notches or recesses 18 in the pivoted cross-bars or connecting-rods 17 are made to engage with studs or pins 35ª, located upon the standards 11 at or near the top, whereby the two sets of standards are retained in a closed position.

We desire it to be distinctly understood that the peculiar motion imparted to the dash may be effected by a suitable gearing instead of by the straps, as illustrated.

A faucet 36 is screwed or otherwise attached to one side of the body of the churn near the bottom, whereby the buttermilk may be drawn from the churn when desired.

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

1. In a churn, the combination, with opposed sets of connected standards hinged together at the top, and rods or bars projected downward from the upper end of the united standards, of a churn-body connected to the lower extremity of the said downwardly-projecting bars, a dash held to rotate within the churn-body, having attached to one trunnion outside of the body a disk or wheel, and straps attached to the said disk or wheel at one end, the said straps being carried in opposite directions and secured at the other end to the opposed side standards of the frame, substantially as shown and described.

2. In a churn, the combination, with opposed side standards hinged together at their upper ends, and bars or hangers projected downward from the upper extremity of the said united standards, of a churn-body attached at the ends to the lower extremity of the said bars or hangers and provided with a rotary dash, and means, substantially as shown and described, for imparting to the said dash a rotary reciprocating movement when the churn-body is laterally reciprocated, as set forth.

3. In a churn, the combination, with opposed standards hinged together at the upper extremity, cross-bars provided with notches in the lower edge pivoted to one set of standards, and pins projected from the opposed set of standards adapted to engage with the said cross-bars, and connecting bars or hangers pivotally secured to the upper connected ends of the standards, of a churn-body provided with a revoluble dash journaled transversely therein, a lever secured to one side of the churn-body projecting outward beyond one of the standards, and means, substantially as shown and described, for imparting to the dash a rotary reciprocating movement when the body of the churn is laterally reciprocated, as set forth.

4. In a churn, the combination, with opposed sets of standards hinged together at the upper ends, cross-bars provided with notches or recesses in their lower edges pivoted to one set of standards, pins or studs projected from the opposed standards, adapted for engagement with the said cross-bars, and connecting rods or hangers pivoted at the upper extremity to the hinged upper ends of the standards, of a churn-body secured at the ends to the lower extremity of the said hangers, a dash located within the said body, a set-screw passing through one end of the body into one end of the dash, a shaft held to revolve in the opposite end of the body provided with a rectangular inner end capable of entering a similar socket in the corresponding end of the dash, a disk or wheel secured to the outer end of the said shaft, bands attached at one end to the said disk or wheel and wound thereon in opposite directions, and having their outer ends secured to the opposed standards of the frame, all combined for operation, substantially as shown and described.

HALE E. HAWK.
WESLEY SMITH.
JOSEPH F. FOX.

Witnesses to Hale E. Hawk:
J. L. LEONARD,
J. P. BEALL,

Witnesses to Wesley Smith and Joseph F. Fox:
J. W. EVANS,
F. A. ESTERLY.