A. L. SPERRY.

Churn.

No. 25,285. Patented Aug. 30, 1859.

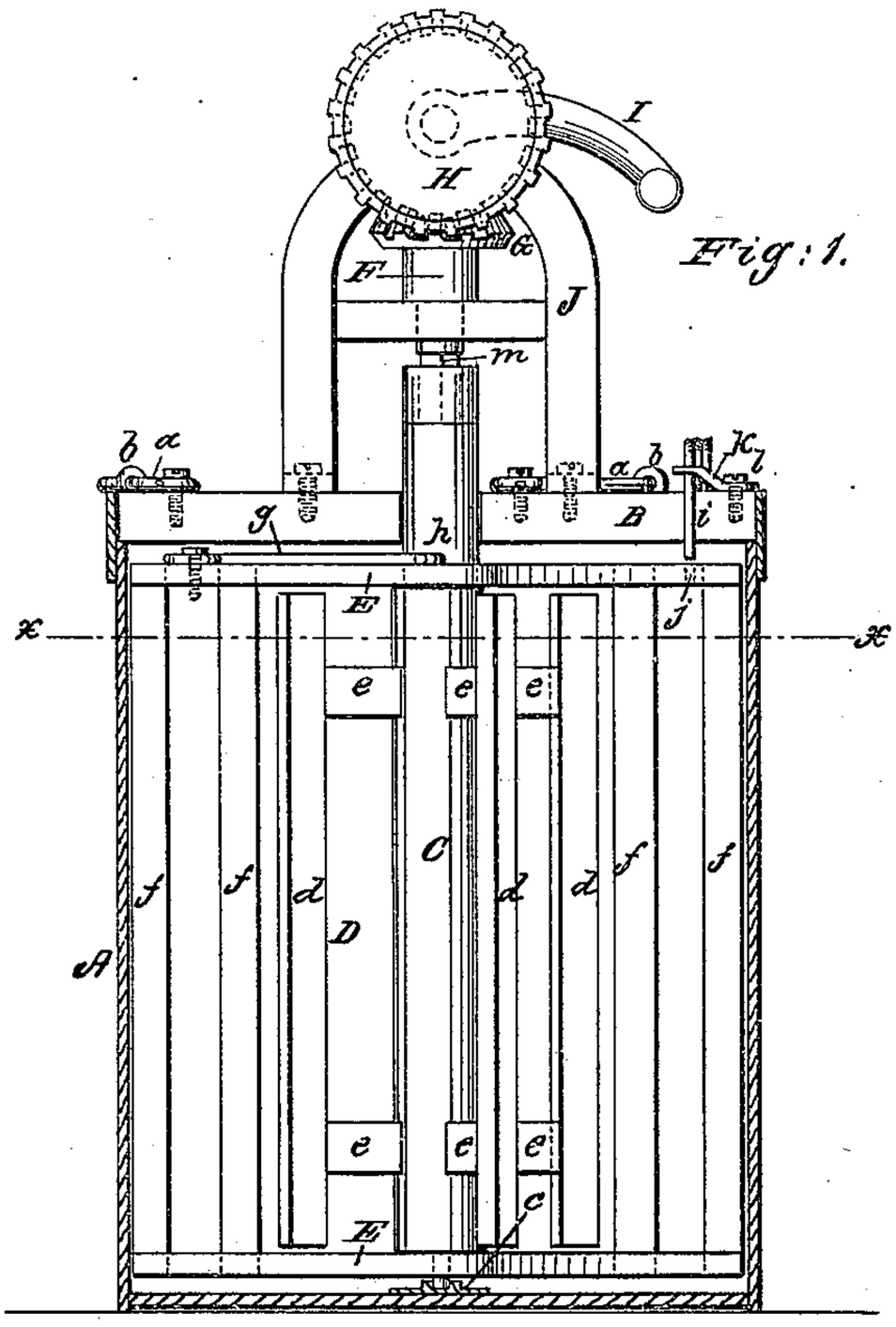
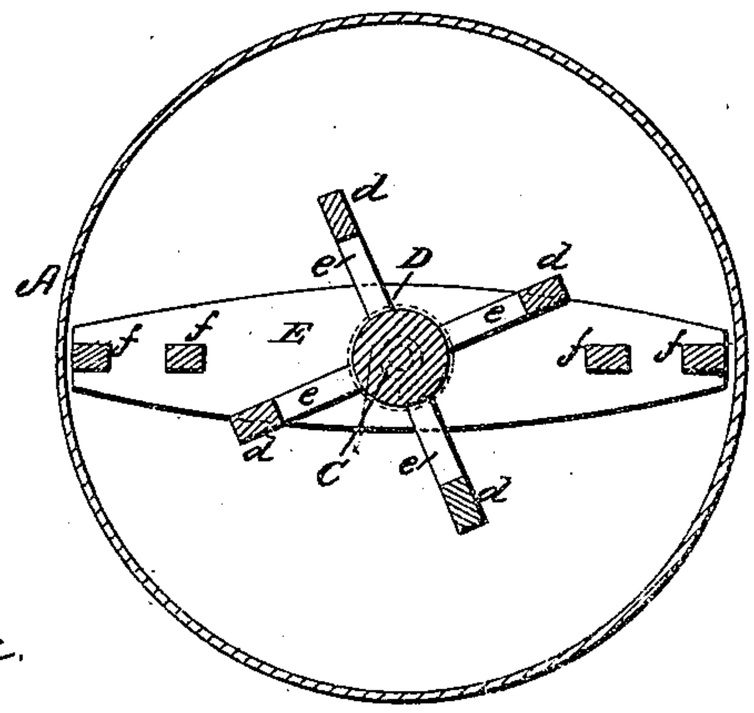


Fig: 1.

Fig: 2.



Witnesses:
Henry. H. Ford.
Frances Baird.

Inventor:
A. L. Sperry.

UNITED STATES PATENT OFFICE.

A. L. SPERRY, OF AUBURN, INDIANA.

CHURN.

Specification of Letters Patent No. 25,285, dated August 30, 1859.

To all whom it may concern:

Be it known that I, A. L. SPERRY, of Auburn, in the county of Dekalb and State of Indiana, have invented a new and Improved Churn; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, represents a vertical central section of my invention, and Fig. 2, is a horizontal section of ditto, the line *x*, *x*, Fig. 1, indicating the plane of section.

Similar letters of reference in both views indicate corresponding parts.

My churn is one of the kind which has a cylindrical tub with a vertical revolving dasher arranged on a cylindrical shaft, which also carries a breaker frame with a series of breakers arranged outside the dasher and my invention consists in a particular arrangement of a hook which serves to connect or disconnect the breaker frame with the shaft and the arrangement of a spring hook and button, whereby the breaker frame can be arrested, so that the dasher can be operated independent from the breakers, both the hook and the spring hook being operated from the top of the churn.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, represents the tub to which the lid B, is secured by means of hooks *a*, and eyes *b*. The lid is made in two halves so that it can easily be removed. The dasher D, is attached to a vertical shaft C, which is stepped into a socket *c*, attached to the bottom of the tub, and it (the dasher) is constructed with four vertical paddles *d*, secured to arms *e*, which extend from the shaft in a radial direction and at right angles to each other, as clearly represented in Fig. 2. Sufficient room is left between the dasher and the tub for a series of breakers *f*, which are arranged in a frame E, placed loosely over shaft C, so that it rotates independent from the same, if it is desired, and which leaves room for the dasher to rotate within it, as will be clearly understood by referring to Fig. 1. Secured to the top of the breaker frame E, is a hook *g*, which catches into a hole *h*, in the shaft C, whereby the dasher and the breaker frame are connected, so that both rotate together, and the hole *h*, is in such a position that when the breaker frame and the dasher are connected, the paddles of the former are at angles of 45 degrees with the breakers, as clearly represented in Fig. 2.

A spring hook *i*, is attached to the lid of the tub in such a position that it can be depressed through an opening in the lid into a hole *j*, in the top of the breaker frame and it is retained in this position by a button *k*, which turns on a pivot *l*, as clearly represented in Fig. 1.

The dasher shaft C, forms a square socket on its upper end to fit unto a pin *m*, at the lower end of a shaft F, which carries a bevel wheel G, gearing into another similar wheel H, which is rotated by means of a crank I, the crank shaft *n*, as well as the shaft F, having their bearings in a framing J, secured to the top of the lid B.

The operation is as follows:—In order to break the cream, the breakers are arrested by depressing the spring hook *i*, and the dasher is rotated independent from the breaker frame, the hook *g*, being disconnected from the hole *h*, in the dasher shaft. After the butter has been separated from the milk, the hook *g* is pressed into the hole *h*, in the shaft, thereby connecting the breaker frame and the dasher, and the button *k*, is turned back, releasing the spring hook *i*, so that the dasher together with the breaker frame and with the breakers can be rotated. By thus forming the whole sweep of the churn, the butter is gathered very readily by turning the crank backward and forward. It will be noticed that both the hooks and the spring hook *i*, can be operated very easily from the top of the churn, the hook *g*, by taking off one half of the lid, so that it can easily be reached with the hand and that it takes but little trouble to press it into the hole *h*, in the dasher shaft, and the spring hook *i*, by simply turning the button *k*, on the top of the lid so that it catches over and depresses said hook or so that it releases the same.

I am well aware that rotary dashers with breakers constructed and operated similar to mine have been made before, such being shown in the patent of Isaac L. Dickinson, dated January 31, 1854, where the breakers can be disconnected from the dasher so that the latter rotates independent from the former, or where the dasher and the breakers can be connected and rotated together.

The method of connecting and disconnecting the dasher and the breakers however is very inferior to mine, the connection in Mr. Dickinson's churn being effected by pins and holes in the bottom of the churn and by slots in the lower part of the breaker frame, together with spring catches, neither of which can be reached or seen when the churn is in operation, so that it is very difficult to operate a churn constructed according to his invention, and it is also very difficult to clean his churns properly it being not very easy to reach all the cavities in the bottom of the same. All these difficulties are removed with my churn, in which both the hook *g*, and the spring hook *i*, are always above the level of the cream in the churn so that both can be seen and reached from the top whenever the station of the operation makes it desirable, and it is just as easy to clean my churn as it is to clean any other churn with a rotary dasher.

I am also aware that T. B. Harper obtained a patent April 27, 1858, for an improvement on the churns just alluded to, whereby the same advantage of operating the devices which control the dasher and breaker from the top of the churn, is secured; but his arrangement differs from mine, and besides this requires that the crank shall be turned backward when it is necessary that the breaker shall remain stationary and the dasher revolve independently of it: whereas with my arrangement, the crank is always turned forward both when the dasher revolves independently of the breaker, and together with it, and thus the inconvenience and fatigue of a back movement of the hand are avoided. Another disadvantage of the Harper churn is that a part of the gearing requires to be loose and consequently is liable to become rickety and work untrue, and with friction, and the advantageous vibration of the dasher and breaker together back and forward so as to gather the butter, as in my churn, cannot be resorted to in the Harper churn, for the very moment the direction of the motion is changed from back to forward the dasher and breaker automatically disconnect, and one remains stationary while the other moves.

In view of these facts I disclaim everything claimed and described in the patents of J. L. Dickinson and T. B. Harper, but having thus described my invention

What I claim as new and desire to secure by Letters Patent, is—

The arrangement of the hook *i*, and button *k*, to operate in combination with the dasher D, and breaker frame E, in the manner and for the purpose herein specified.

A. L. SPERRY.

Witnesses:
FRANCIS BAIRD,
HENRY W. FORD.